

THE
LADIES' FLOWER-GARDEN.

Bulbous Plants.



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THE
LADIES' FLOWER-GARDEN

OF
ORNAMENTAL BULBOUS PLANTS.

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INTRODUCTION.

THERE are many persons who have no idea of any other flowering bulbs than hyacinths, tulips, crocuses, and narcissi; and there are very few indeed who grow collections of bulbous plants in their gardens. The reason of this must be principally because the splendid flowers produced by these plants are but little known; as in other respects bulbs have much to recommend them. Nothing can exceed the brilliancy and variety of the colour displayed by their flowers, and nothing can be more simple than their culture. The bulb, when purchased, contains within itself the future flower, and it requires very little aid from the gardener to develop it. Its long period of rest also leaves the ground half the year free for other plants; and by growing the bulbs in pots, and removing them as soon as they have done flowering, to mature their leaves in a reserve ground, the beds in the flower-garden will be ready to be covered with annuals, which may have been previously sown and brought forward, and thus the beauty of the garden will be preserved during the whole season of flowers. Among the other advantages of bulbous plants, is the very great one, that many of them produce their flowers in very early spring; at a season when few other plants are in blossom, and yet when flowers are doubly valuable from their rarity. At this season, a bed of crocuses presents a flowery carpet of the most brilliant colours, and borders of hyacinths refresh us with their fragrance, while they enchant us with their beauty. About the same time the bright blue flowers of the scillas burst at once in full perfection through the ground; and a little later these are followed by the fritillarias, the crown imperials, the narcissi, the tulips, and the irises, which in their turn are succeeded by the showy gladioluses and the stately lilies. Interspersed with these come a whole host of beautiful flowers, of which few persons know even the names. The *Moræas*, the *Vieusseuxias*, the *Homerias*, the *babianas*, the different kinds of *sparaxis*, *tritonia*, and *ixia*, with many, many others, form altogether a garden of unrivalled richness, which varies every month by a succession of new flowers, every fresh one appearing more splendid than the last.

The principal objection generally made to the culture of bulbs is their expense ; and this, if fresh bulbs are to be purchased in the seed-shops every year, is certainly considerable. With a little care, however, bulbs may be preserved for many years in this country, so as to flower every season as well as those yearly imported from abroad. All that is requisite is to study the nature of the bulb, and to treat it accordingly.

A bulb, though generally considered as a root, partakes in fact much more of the nature of a seed ; as when it is fixed firmly in the ground, or suspended over water, it sends down its true roots, and up its ascending shoot, exactly in the same manner as a seed does when it vegetates ; the feculent matter contained in the fleshy scales of the bulb serving to nourish the young plant in the same manner as the albumen in the cotyledons of the seed. There are, however, some important differences. The seed wastes away in giving birth to the plant which springs from it, while the bulb, though really renovated every year, remains to all appearance the same after flowering as when it was put into the ground ; the seed also sends up a stem producing buds, which become leaves or branches, while the bulb only sends up leaves and a flower-stem without buds.

What are commonly called bulbs are of three kinds ; the tunicated bulbs, such as the hyacinth and the onion, which consist of a number of coats or tunics, which may be peeled off one after another ; the solid bulbs or corms, such as the crocus, which consist of one solid, white, nut-like mass, covered with a loose skin ; and the scaly bulbs, such as the lily, which consist of fleshy scales only connected at the root. All the kinds abound in feculent or starchy matter, provided by nature for the support of the young plant.

The bulb, thus containing within itself the substance necessary to supply nourishment to the plant which is to spring from it, only requires to be stimulated by heat and moisture to make it produce leaves and flowers ; and thus hyacinths, and many other bulbs, may be flowered in glasses with water only, quite as well as in any kind of soil. When this is the case, however, the bulb becomes greatly exhausted ; and if it were taken out of the glass, and then dried immediately, it would be incapable of producing any flowers the following year, and would, indeed, probably die, all its stock of nourishment having been exhausted. To prevent this from being the case, the bulb, as soon as it has done flowering, is taken out of the glass, and planted in the earth ; in order that its roots may extract a sufficient quantity of rich food from the soil, to enable it to lay up a fresh stock of nutritive matter for the ensuing year : the new matter, whether it be accumulated in the form of fleshy tunics, or scales, or of a solid mass, always entirely supplying the place of the old and exhausted parts, which shrivel and decay. The new

matter thus formed appears in different positions, according to the nature of the bulb to which it belongs. Sometimes it forms in the centre of the old bulb, as in the hyacinth; sometimes on the side, as in the tulip; sometimes above, as in the crocus; and occasionally under, as in the bulbous irises. Thus, another reason is afforded for taking up and replanting bulbs every year; as unless this be done, the crocuses will in a few years be actually pushed out of the ground, and the irises sunk too deeply into it to flower, while the tulips will travel away from the place where they were originally planted. This, in fact, does take place when bulbs are left for several years in the ground without taking up; and thus many are lost, besides those that die from the excess of moisture to which they are exposed, if they are left during winter in the soil. It should never be forgotten that many bulbous-rooted plants are natives of warm countries in very dry situations, where the extraordinary provision of nourishment laid up in the bulb is absolutely necessary for their preservation. Many of these are natives of the hot sandy plains of South Africa, where they are subject to alternate seasons of excessive rain, and excessive dryness: and to produce an assimilation to this climate in the culture of the Cape bulbs, they should be allowed a season of complete repose; as during the dry season the bulb lies in its native sands without roots or leaves, which it is only stimulated to produce by the excessive moisture to which it is exposed, when the rainy season begins.

The new matter which bulbs form every year to supply the place of that exhausted by the production of stems, leaves, and flowers, must not be confounded with the offsets or young bulbs, which are produced by the side of the old ones, and which are the principal means provided by nature for continuing the species. These offsets, indeed, can only be considered in the light of suckers, and are quite distinct from the old bulb; which nature renovates every year, by a process peculiar to this class of plants.

The feculent matter in the bulb is produced, like the mealiness of over-ripe fruit, by the light and heat of the sun elaborating the sap, and evaporating its watery particles during its circulation through the leaves, and forcing it to deposit its carbon. To effect this, the bulb should be placed in an open, but sheltered situation, where it will be fully exposed to the sun's rays; and it should be allowed to retain all its leaves, as it is during the progress of the sap through the leaves, that it is principally acted upon by the heat of the sun. For this reason, the leaves of a bulbous plant should never be cut off till they begin to wither and turn brown at the points, which is a sign that the sap no longer circulates through them; as if they are cut off before the sap is fully matured, the bulb will either produce no flowers at all the ensuing year, or its flowers will be pale and weak. The bulb itself would indeed perish, if the leaves were to be cut off as fast as they appeared.

As soon as the leaves have withered they should be pulled off, and the bulb taken up and kept dry till the planting season returns ; and this is done, because if the bulbs are left in the ground during their season of complete repose, during which their growth is entirely stopped, they will be either in danger of becoming rotten by the moisture of the earth, or be stimulated by it into a premature and unnatural activity.

Bulbs are propagated not only by their offsets, but by seeds ; though when raised in the latter method, they are generally four or five years before they flower. All bulbous plants are what is called monocotyledonous ; that is, their seeds send up only one seed-leaf, instead of dividing into two, and their leaves are veined longitudinally, without any, or with very slight ramifications, instead of being strongly reticulated like those of the dicotyledonous plants.

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FIG.		PAGE	FIG.		PAGE
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THE

LADIES' FLOWER-GARDEN

OF

Ornamental Bulbous Plants.

CHAPTER I.

IRIDACEÆ.

<p>ESSENTIAL CHARACTER.—Perianth 6-parted. Stamens three, arising from the base of the outer segments. Anthers bursting externally lengthwise, fixed by the base, 2-celled. Ovary 3-celled, cells many-seeded. Styles three. Stigmas often petaloid, rarely 2-</p>	<p>lipped. Capsule 3-celled, 3-valved, with a loculicidal dehiscence. Seeds attached to the inner angle of the cell; or sometimes to a central column.</p>
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DESCRIPTION, &c.—Several of the plants belonging to this order have not bulbous roots, but those which have comprise several very important genera, the best known of which are *Iris*, (the *Fleur de lis*, or Flag-flower,) *Gladiolus* (the Corn-flag,) and *Crocus*. The *Ixias* and *Tigridias* are also very frequently found in gardens, but the other genera, though all producing beautiful flowers, are comparatively but little known. They are generally hardy, and of the easiest culture.

GENUS I.

IRIS L. THE FLEUR DE LIS, FLOWER DE LUCE, OR FLAG-FLOWER.

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*Lin. Syst.* TRIANDRIA MONOGNYIA.

|                                                                                                                                                                                                             |                                                                                                               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| <p><b>GENERIC CHARACTER.</b>—Common spathe 2-valved, 1—or many-flowered. Perianth large, and 6-parted; three of the segments erect, and the three alternate ones reflexed. The stamen-bearing segments,</p> | <p>bearded or not bearded. Style short. Stigmas three, petal-like, large, oblong, lying over the stamens.</p> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|

**DESCRIPTION, &c.**—The extraordinary beauty of the flowers of the plants belonging to this order, renders them valuable in every garden. The greater part of the species of the genus *Iris* have, however, fibrous roots, and consequently cannot be included in the present work. The bulbous Irises are few, but their flowers are so beautiful, that they are all well known. They are all hardy; and when once planted, they are generally left in the ground year after year, without any care being bestowed upon them. They should, however, be taken up every second or third year; as the new bulb forms every year below the old bulb, and thus if the plant be



suffered to remain undisturbed, the bulb will in a few years have descended so low as to be out of the reach of the sun and air, without the aid of which it cannot vegetate. In this manner many valuable species have been lost, or rather, have been supposed to be lost, as disinterring them would restore them at once to light and life. To prevent the descent and consequent loss of the bulbs, Miller, in his "Gardener's Dictionary," recommends placing a stratum of lime rubbish beneath the bed in which the Irises are to be grown. But this, besides the trouble and expense attending on it, is found by modern gardeners to have an injurious effect in checking the growth of the fibrous roots, and consequently weakening the plant. Nearly all the bulbous Irises are natives of Europe; and most of them have been many years in cultivation in our gardens: they do not appear to have any medicinal properties, though several are attributed to the fibrous-rooted species, one of which, *Iris florentina*, produces the orrice-root, (corrupted from iris root,) of the shops.

The botanical construction of all the plants belonging to the genus *Iris* is rather interesting. The flower springs from a curiously folded leaf-like stem called a spathe, which the older botanists considered to be the calyx. Modern botanists, on the contrary, consider the calyx to be confounded with the corolla; and call the three reflexed segments of the perianth, the sepals of the calyx, and the upright ones (or standards as they were called by Linnæus), the petals of the corolla. All the segments of the perianth are deeply coloured on both sides, and even the stigmas are dilated and coloured, so as to look like petals. The bulbs are generally tunicated, and the leaves of many of the species remain on during winter.

The name of *Iris* was first given to this genus by Theophrastus, the oldest writer on plants of whom we have any record, and according to Plutarch it signifies the eye of heaven. It appears applied to these plants from their varied colours, in the same way as it has been by poets to the rainbow, and by surgeons to the pupil of the eye.

#### 1.—IRIS XIPHIUM, *Lin.* THE SPANISH FLAG-FLOWER.

SYNONYME.—*I. hispanica*, *Hort.*

ENGRAVINGS.—*Bot. Mag.* t. 686; and our *fig.* 4, in Plate 1.

SPECIFIC CHARACTER.—Not bearded; the spathe generally 1-flowered.

Outer segments of the perianth sub-rotate and recurved, a little shorter than the upright ones, which are somewhat convolute, and sub-diverging. Ovary not inclosed in the spathe. Peduncle very short.

DESCRIPTION, &c.—The bulb is ovate-oblong, with a brown membraneous covering. The leaves, which remain on all the winter, are very long and awl-shaped, ending in a sharp point: they are deeply channelled, with a glossy surface within, and somewhat rough and keel-shaped on the outside. The flower is very handsome, and usually expands in June; it has a slight smell of coriander-seed. The whole plant is rarely above a foot and a half high, but it is very ornamental. It is a native of Spain according to Clusius and other botanists, and Desfontaines also found it growing wild in the sandy plains near Algiers. It was introduced before 1596, as Gerard mentions it as one of the plants cultivated in his garden; and bulbs of it are to be had under the name of *Iris hispanica*, at any of the seed-shops, for a mere trifle. The bulbs should be planted in September or October in a sandy loam, sufficiently loose, or, as the gardeners call it, free, to allow the roots to descend easily; and they should be taken up every other year, and after the offsets have been removed, the bulb should be laid on a shelf in an airy situation, that the wounds may heal before it is replaced in the ground. The time this takes varies; but the bulb should never be kept longer than a month out of the ground. When the offsets are not required for propagation, many gardeners push them off as soon as they appear, with a blunt stick, without taking the bulb out of the ground, lest they should weaken the plant, and should prevent it from



*Iris sibirica* L. *Iris pallida* L. *Iris versicolor* L.  
*Iris florentina* L. *Iris germanica* L. *Iris acaulis* L.





producing good flowers. This species is very seldom propagated by seeds in this country, (though it comes very true in that manner,) as it produces abundance of offsets. The best bulbs, however, are those imported from Holland, where they are raised from seeds; and those which are sold as varieties, are generally hybrids between this species and *I. Xiphioides*.

## 2.—IRIS XIPHIODES, Ehr. THE PYRENEAN, OR LARGE BULBOUS-ROOTED FLAG-FLOWER.

SYNONYME.—*I. anglica*, Hort.; English Iris.

ENGRAVINGS.—Bot. Mag. t. 687; and our fig. 3, in Plate 1.

SPECIFIC CHARACTER.—Perianth beardless; spathe often 2-flowered, lanceolate, and inflated. Segments of the perianth emar-

ginately-cleft; outer ones spreading horizontally, and larger than the inner ones, which are spatulate-obovate, and somewhat convolute. Ovary inclosed in the spathe.

DESCRIPTION, &c.—The bulbs somewhat resemble those of *I. Xiphium*, but they are larger and less oblong. The plant is generally above two feet high, with a strong erect stem, terminating in an inflated spathe, the point of which rises up into the centre of the flower. Sometimes two, or even three flowers, rise from the same spathe, and when this is the case, they are divided from each other by a kind of membranaceous valve. The leaves resemble those of *I. Xiphium*, but they do not remain on during winter. The flowers are large, and very handsome, the outer segments being claw-shaped at the base, and dilating into a large limb or lip, which is bent back, as though to display all its beauty. This species is a native of the Pyrenees, and it appears to have been introduced at a very early period, probably by the captain of some ship from Bordeaux, as it was found growing in such abundance in the neighbourhood of Bristol, that Clusius, when he visited this country in 1571, considered it to be a native. It has disappeared, however, long since from that locality; and it is now only cultivated in gardens, where it generally requires replanting every four or five years, from the bulbs descending into the earth. It is sold in the seed-shops under the name of *Iris anglica*, and it is very much dearer than the Spanish Iris, as the bulbs produce very few offsets, and those for sale are almost all imported from Holland. There are many varieties; as the species is generally raised by the dealers from seed, which it produces in great abundance, but which seldom comes true. The soil, time of planting, mode of culture, and time of flowering, are the same as those of *I. Xiphium*.

## 3.—IRIS LUSITANICA, Ker. THE PORTUGUESE FLAG-FLOWER.

SYNONYMS.—*I. sordida*, Soland.; *I. bulbosa lutea*, Bauhin and Gerard.

ENGRAVINGS.—Bot. Mag. t. 679; and our fig. 2, in Plate 1.

SPECIFIC CHARACTER.—Perianth beardless; spathe 1-flowered, outer segments only a little larger than the inner ones; claws nearly erect, but the limbs are revolute and deflexed. Ovary half inclosed.

DESCRIPTION, &c.—This very beautiful species is nearly allied to *I. Xiphioides*, but it differs in having the claws or narrow part of the outer segments nearly erect, instead of their spreading horizontally; and in the germen, or incipient seed-vessel, being only half inclosed in the spathe, instead of being entirely hidden by it. The flowers are without scent; and are produced only one in each spathe. The plant grows about two feet high: it is a native of Portugal, and was introduced before the time of Gerard (1596), though it was probably lost and re-introduced, as a later date is generally assigned to its introduction. It appears to have been first figured and described by Clusius. Bulbs of this species are not so common in the seed-shops as those of the other kinds; but when they are met with, their time of flowering and culture are the same as those of *I. Xiphium*, with the exception of their requiring a somewhat richer soil. To enrich the soil, about a fourth part of vegetable mould (decayed leaves), or thoroughly rotten manure, should be mixed with the sandy loam.



4.—IRIS ALATA, *Poir.* THE WINGED IRIS.

SYNONYMES.—*I. scorpioides*, *Desf.*; *I. microptera*, *Vahl.*; *I. transtaghana*, *Brot.*; *Juno scorpioides*, *Tratt.*  
 ENGRAVINGS.—*Redoubté Liliacæ*, t. 211; *Bot. Reg.* t. 1876.

SPECIFIC CHARACTER.—Stemless. Leaves sword-shaped. Perianth beardless, with a very long tube; inner segments much shorter than the others. Stigmata equal in length to the inner segments.

DESCRIPTION, &c.—A dwarf plant, with very large broad leaves, but no stem. The flower is white, streaked with blue, and a little yellow; and it rises from a short, and very loose spathe. Its odour Dr. Lindley describes as something between that of a hyacinth and elder-flowers. It is a native of moist places near Algiers, where it flowers in winter; and it is found generally on the shores of the Mediterranean. It is less ornamental than most of the other species; and, though it was introduced in 1801, bulbs of it are seldom to be procured in the seed-shops. As it flowers in January or February, it is, though hardy, more suitable for growing in pots than in the open air.

5.—IRIS RETICULATA, *Rœm. et Schul.* THE NETTED-BULB IRIS.

ENGRAVING.—Lodd. *Bot. Cab.* t. 1829.

SPECIFIC CHARACTER.—Perianth beardless; segments all nearly

equal, inner ones somewhat lanceolate, and incurved. Ovary partly inclosed.

DESCRIPTION, &c.—A very pretty little plant, with rich dark purple flowers, marked with blue, and a little yellow. The leaves are very slender, and somewhat longer than the flower-stem. The bulb looks as though covered with net-work, whence the specific name. The species is a native of the countries near Mount Caucasus; whence it was introduced in 1821. It is quite hardy, and only requires to be grown in light sandy loam; but it is very difficult to propagate, as it produces few offsets, and we do not know where bulbs of it can be procured, unless it be from Messrs. Loddiges, who introduced it. It flowers in the beginning of March; and, from its dwarf size, compact habit of growth, and brilliant dark purple flowers, it is very well suited for growing in a pot.

6.—IRIS PERSICA, *Lin.* THE PERSIAN IRIS.

ENGRAVINGS.—*Bot. Mag.* t. 1, and our *fig.* 5, in Plate 1.

SPECIFIC CHARACTER.—Perianth beardless. Inner segments very short and spreading.

DESCRIPTION, &c.—A beautiful little plant, varying in colour from the most delicate tint of cœrulean blue to a full azure, according to the degree of its exposure to light and air. It is a native of Persia, whence it was introduced about 1627, for Henrietta Maria, the Queen of Charles I., who was passionately fond of flowers; and it has continued a favourite plant in British gardens for more than two centuries. Bulbs of this species are common in all the nurseries, and they may either be flowered in water like hyacinths, or grown in a pot in pure sand, or in the open air in sandy loam. They will also bear forcing well; and in this manner may be made to produce flowers nearly all the year; though their natural season for flowering is February and March. When grown in water the flowers are less fragrant than they are when the plants are grown in pots, and much paler than they are in the open air; and when grown in pots, they should be frequently watered, but the water should not be suffered to remain in the saucers.

7.—IRIS CAUCASIA, *Stev.* THE IRIS OF MOUNT CAUCASUS.

ENGRAVINGS.—Swt. Brit. Flow. Gard. t. 255; and our *fig.* 1, in Plate 1.

SPECIFIC CHARACTER.—Beardless. Leaves scythe-shaped, and conduplicate, a little larger than the scape. Spathe inflated, sometimes

2-flowered; outer segments large, ovate, obtuse, and marked with a rough yellow crest; inner ones small, lanceolate, and abruptly reflexed. Ovary nearly round, and partly inclosed. Stigmas erect, and equal in size to the outer segments of the perianth.

DESCRIPTION, &c.—A curious little plant, resembling *I. Persica* in its tunicated bulb, and in its habit of growth, but differing in its flowers, which are of a pale straw colour, and devoid of fragrance. It is a native of Mount Caucasus, and requires a very dry, sandy soil, well drained, as it is very apt to rot. When grown in a pot, the pot should be very deep, and half filled with broken pot-sherds, so as to ensure thorough drainage; and water should never be allowed to stand in the saucer. It is quite hardy, standing out during winter without any protection or care, save that of keeping it quite dry, and it flowers in February and March.

8.—IRIS TUBEROSA, *Thunb.* THE SNAKE'S-HEAD IRIS, OR VELVET FLOWER-DE-LUCE.

SYNONYMES.—*Hermadactylus folio quadrangulo*, *Tourn.*; *H. bispathaceus*, *Swt.*

VARIETY.—*I. t.* 2 *longifolia*; *I. longifolius*, *fig.* 6, in Plate 1; *Hemodactylis*, *Swt. Brit. Flow. Gard.* 2nd Ser. t. 146.

ENGRAVING.—*Bot. Mag.* t. 531.

SPECIFIC CHARACTER.—Beardless. The tube of the perianth, peduncle and ovary, inclosed in the spathe, which is double, or 2-valved. Outer segments of the perianth wedge-shaped, retuse; inner ones erect, very slender at the base, and widening upwards.

DESCRIPTION, &c.—The roots of this very curious plant, and its variety, are solid, and tuberous. The flowers are remarkable for their rich velvet hue, and the leaves for their length and squareness. Those of the variety are very glaucous. The spathe differs from that of most other kinds of *Iris*, in being in two parts, one of which rises up into the flower. The Snake's-head *Iris* is a native of the Levant, whence it was introduced before 1596, as it is mentioned by Gerard. It is quite hardy, and flowers best in situations that have an eastern aspect. The variety is a native of Naples, and was introduced in 1830. Both should be taken up and replanted every year; as they have both a tendency to weaken themselves by producing offsets, and to bury themselves rapidly in the ground, if the soil be at all light. They both blossom in April or May, and seldom produce seeds in England. The species is common in all the seed-shops.

9.—IRIS SUSIANA, *Lin.* THE CHALCEDONIAN IRIS, OR GREAT TURKEY FLOWER-DE-LUCE.

ENGRAVING.—*Bot. Mag.* t. 91.

SPECIFIC CHARACTER.—Leaves glabrous, sword-shaped. Scape 1-flowered. Perianth bearded, inner segments rounded.

DESCRIPTION, &c.—One of the most magnificent species of the genus, growing two feet high, and with tuberous roots. It is a native of Persia, near the city of Susiana, whence it was brought to Europe, in 1573. It grows freely in the open air in England in a sandy loam; but it requires a sunny exposure, and abundance of pure air, as it is very apt to be killed off by damp, and it should be protected by a hand-glass, or flower-pot being turned over it, in case of severe frost. It rarely ripens its seed in this country; but it may be propagated by parting its roots in autumn. This is, however, seldom done, as fresh tubers are imported every year from Holland, and may be purchased in any of the seed-shops. As its new tubers form on the side, and not below, it does not require taking up every year like the bulbous *Irises*. It is very suitable for growing in a large pot, which must be well drained by being half filled with potsherds, and kept not too moist, no water being ever allowed to stand in the saucer; and as it bears forcing well, it may be made, by putting the pot into a stove or hotbed, to produce its flowers at any season of the year.



## GENUS II.

MORÆA, *Mill.* THE MORÆA.*Lin. Syst.* TRIANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth 6-parted, spreading; the inner segments smaller than the outer ones. Stigma variable.

DESCRIPTION, &c.—Many of the plants which now constitute the genus *Moræa* were included by Linnæus in the genus *Iris*; but they have been separated, on account of the different formation of the bulb; which in *Moræa*, instead of being tunicated as in *Iris*, is solid, and partakes of the nature of a corm. This is the principal distinction between the genera, as all the other differences are very slight. It is true that all the six segments of the perianth in the genus *Moræa* are frequently nearly equal, which they never are in *Iris*; and that the stigmas are not always petal-shaped in *Moræa*, though they are in *Iris*. The flower-scape also generally produces several flowers, instead of only one, or very rarely two; the plants are of smaller and more humble habit of growth, and the flowers of the *Moræas* are generally of much shorter duration than those of the different kinds of *Iris*. All the plants belonging to the genus *Moræa* are well adapted for growing in pots, or in boxes under a veranda; and they all require a good deal of care and attention from their cultivator. The name of *Moræa* was given to this genus by Miller, in compliment to his friend Robert Moore, Esq., of Shrewsbury.

1.—MORÆA SISYRINCHIUM, *Ther.* THE EUROPEAN MORÆA, OR SPANISH-NUT.

SYNONYME.—*Iris Sisyrinchium*, *Lin.*

ENGRAVING.—*Bot. Mag.* 1407.

SPECIFIC CHARACTER.—Leaves channelled, larger than the scape,

which is generally 3-flowered. Perianth with a very long filiform tube, and the alternate segments of the limb erect.

DESCRIPTION, &c.—The flower of this species is very handsome. The outer segments of the perianth are of a deep blue, marked with white and yellow in the centre, like those of some of the kinds of *Iris*, and are reflexed, while the inner segments and the dilated petal-like stigmas stand erect. The spathe is short, leafy, and two-flowered. The bulb is solid, and about the size of a small chesnut; it is covered with a coarse brown reticulated skin, but the inner part, which is white, is said to be eaten by the children in Spain and Portugal in the way of nuts. The fibrous roots issue from the side of the bulb, and not the base. It is a native of Spain and Portugal, and, in fact, of both shores of the Mediterranean; and it was introduced before 1596, as it is mentioned by Gerard. It blossoms in May, and requires protection during winter. It may, however, remain in the ground for three or four years without taking up; which the bulbous *Irises* should never be allowed to do, on account of their sinking into the earth deeper and deeper every year. The Spanish-nut, on the contrary, forms its new bulb, like the crocus, above the old one; and consequently it is more inclined to rise out of the ground than to sink into it. The soil should be sandy loam, but any common garden soil will do. It may be observed that the bulb tubers of the *Moræas* may be planted much deeper than the *Irises*; the *Moræas* may indeed be planted five or six inches deep, while the *Irises* should be only just covered with the soil.



*Iris sibirica* L. *Iris pinnatifida* L. *Iris pallida* L. *Iris versicolor* L. *Iris florentina* L. *Iris germanica* L. *Iris sibirica* L. *Iris pinnatifida* L. *Iris pallida* L. *Iris versicolor* L. *Iris florentina* L. *Iris germanica* L.





2.—*MORÆA TENOREANA*, Swt. TENORE'S *MORÆA*.SYNONYME.—*Iris fugax*, Ten.ENGRAVINGS.—Swt. Brit. Flow. Gard. t. 110; and our *fig. 6*, in Plate 2.

SPECIFIC CHARACTER.—Leaves very long, and springing from the

root. Scape jointed, subracemose, and many flowered. Outer segments of the perianth bearded, and more than twice as large as the inner ones.

DESCRIPTION, &c.—Strongly resembling *M. Sisyrinchium*, but smaller in all its parts; and differing botanically, in the spathe being membranaceous instead of leafy, and in the fibrous roots issuing from the base of the bulb instead of from its side. This species is a native of Naples, where it was first described by Professor Tenore, after whom it is named. It was introduced in 1824. It requires the same culture as *M. Sisyrinchium*, except as regards the soil, which should be very light and sandy, or equal parts of loam, peat, and sand. It may also be left in the ground for three or four or more years, without removal; but it must be protected during winter. It does not flower till June or July; and need not be planted till April.

3.—*MORÆA PAPILIONACEÆ*, Ker. THE BUTTERFLY *MORÆA*.SYNONYMS.—*Iris papilionaceæ*, *Lin.*; Dwarf *Moræa*.

ENGRAVING.—Bot. Mag. 750.

SPECIFIC CHARACTER.—Plant hairy; leaves reflexed. Stem divided; segments of the perianth all spreading.

DESCRIPTION, &c.—A beautiful little plant, with the stem not above two or three inches high, and orange and scarlet flowers. The leaves are somewhat larger than the stem, and pubescent on both sides. The stem is simple, but produces a panicle of two or three flowers, which have a very agreeable fragrance. A native of the Cape; introduced in 1795; and flowering in May or June.

4.—*MORÆA CILIATA*, Ker. THE FRINGED-LEAVED *MORÆA*.SYNONYME.—*Iris ciliata*, *Lin.*

ENGRAVING.—Bot. Mag. 1061 of the variety.

VARIETY.—*M. c. 2 cœrulea*; *I. c. 2 cœrulescens*, *Lin.* Flowers blue.

SPECIFIC CHARACTER.—Leaves ciliated. Outer segments of the perianth obovate and beardless; inner ones erect.

DESCRIPTION, &c.—A pretty little plant, seldom growing above six inches high, with yellow flowers and fringed leaves. A native of the Cape of Good Hope; imported in 1787. Like all the Cape bulbs, it should be taken up every autumn as soon as its leaves begin to wither, and kept out of the ground till February, when it should be replanted. This is done to give the bulbs a period of complete rest, like that which they have during the dry season in their native country, the sandy plains of South Africa; but which they can never have in the winter, if left in the ground in the moist climate of England. They should also be grown in very sandy soil, and supplied with abundance of water; as in Africa it is only in the rainy season that they send forth leaves and flowers. It flowers from April to June.

5.—*MORÆA BARBIGERA*, Sal. THE BEARDED *MORÆA*.SYNONYMS.—*Iris ciliata*, var. *purpurea-rubra*, *Lin.*; *M. c. 2 purpurea-rubra*, *Ker.*ENGRAVINGS.—Bot. Mag. t. 1012; and our *fig. 7*, in Plate 2, under the name of *M. ciliata*.

SPECIFIC CHARACTER.—Leaves ciliated, much longer than the scape. Outer segments of the perianth bearded, obovate; inner ones somewhat spreading. Filaments connected at the base.

DESCRIPTION, &c.—A very beautiful little plant, growing to about the same height as the Persian Iris, with very small bulbs, and crimson and yellow flowers. It may have been observed that one of the marks of



distinction between the different kinds of bulbs belonging to *Iridaceæ* is, whether their flowers are bearded or not bearded. This beard consists of a number of very short hairs on the yellow part of the outer segments of the flower, which present a rough surface to the touch, while in the kinds that are not bearded this part is without hairs, and is perfectly smooth. The bearded *Moræa* is without fragrance; and the flowers are of very short duration. It is a native of the Cape of Good Hope, whence it was introduced in 1807; and it requires the same culture as *M. ciliata*. It flowers in April or May.

#### 6.—MORÆA CRISPA, Ker. THE CRISPED-LEAVED MORÆA.

SYNONYME.—*Iris crispa*, *Lin.*

ENGRAVINGS.—*Bot. Mag.* t. 1284.

SPECIFIC CHARACTER.—Glabrous; leaves reflexed, curled, almost

the length of the scape. Segments of perianth all spreading, and the alternate ones smallest.

DESCRIPTION, &c.—The flowers are very unlike those of most of the other species, both of *Iris* and *Moræa*; as the segments bear considerable resemblance to the petals of a jasmine, except that they are of pale yellow, and that the outer ones are streaked with a darker colour. The petal-like stigmas are also much smaller than in the other species. The leaves are curiously crumpled or waved; and the fibrous roots issue from the sides of the bulb. The species is a native of the Cape of Good Hope, and was introduced in 1803. The culture is the same as of the other Cape species. It flowers in May.

#### 7.—MORÆA LURIDA, Ker. THE LURID-COLOURED MORÆA.

SYNONYME.—*Mr. Griffin's Moræa*.

ENGRAVINGS.—*Bot. Reg.* t. 312; and our *fig. 5*, in Plate 2.

SPECIFIC CHARACTER.—Glabrous, papillous. Stem simple, 1-flow-

ered. Leaves about three. Outer segments of the perianth roundish; inner ones much smaller, quite entire.

DESCRIPTION, &c.—Principally remarkable for the rich dark maroon colour of its flowers, its slender stalk, and long grassy leaves, and its delicate little bulb. The whole plant is not above six inches high, and the stem is not more than thrice the thickness of a hair, but quite erect. It is a native of the Cape of Good Hope, and was introduced in 1817. It flowers in July or August, and is seldom ready to take up before October or November. On this account, though by no means tender, it is more suitable for growing in a pot, or in a conservatory, than in the open air; and when it is grown in a flower-border, it should, after it has done flowering, be protected by a hand-glass from frost and heavy rain till the leaves are sufficiently withered to allow of its being taken up. It should be planted in April.

#### 8.—MORÆA RAMOSA, Ker. THE BRANCHING MORÆA.

SYNONYMES.—*Iris ramosa*, *Thunb.*; *I. ramosissima*, *Lin.*

ENGRAVINGS.—*Bot. Mag.* t. 771; and our *fig. 3*, in Plate 2.

SPECIFIC CHARACTER.—Stem erect, paniculately-branched. Leaves broadly-subulate, channelled, keeled; serrately rough at the margin.

Segments nearly equal, with the limb twice the length of the claw. Spathe, germen, and capsule, very small in proportion to the size of the flower. Stigmas serrated.

DESCRIPTION, &c.—A very distinct species, with a strong branching stem, growing above three feet high, and as thick as a finger at the base. The leaves are broad, and enfold the stem at their base. The spathe, germen, and capsule, however, are very small; and the latter being, with the withered flower, not larger than a pea, made Thunberg, who described the plant from a dried specimen, fancy that the flowers were small too,

though, in fact, they are larger than those of any other species of *Moræa*, and remarkably handsome. They are also of very long duration; often continuing in full beauty a month. A native of the Cape of Good Hope; and introduced in 1789. The culture is the same as that of the other Cape species; with the exception, that it requires rather a richer soil, and should be grown in sandy loam, or a mixture of vegetable mould and peat. It flowers early in May, and the flowers usually remain till the latter end of June.

#### 9.—*MORÆA VISCARIA*, *G. Don.* THE BIRDLIME *MORÆA*.

SYNONYME.—*Iris viscaria*, *Thunb.*

ENGRAVINGS.—*Bot. Mag.* t. 587; and our *fig.* 1, in Plate 2.

SPECIFIC CHARACTER.—Stem terete, stiff, of many spikes, clammy.

Leaves flat, linear. Segments of the perianth all reflexed. Stigmas serrated.

DESCRIPTION, &c.—A very curious plant, with the stem branched like candelabra, and only about a foot high; while the leaves, which are much longer, rise up round the flower. The stem is covered with a glutinous exudation like birdlime, which retains all the insects that happen to touch it: this exudation is, however, found on no other part of the plant but the stem and branches. The flowers, which are very curiously shaped, are produced in June. The plant is a native of the Cape, whence it was introduced in 1800; and where it was found growing in pure sand near the coast. The culture is the same as for *M. ciliata*.

#### 10.—*MORÆA LONGIFLORA*, *Ker.* THE LONG-FLOWERED *MORÆA*.

ENGRAVING.—*Bot. Mag.* t. 712.

SPECIFIC CHARACTER.—Stem simple; almost hidden by two large

bracteas. Perianth cup-shaped at the base; with a very long filiform tube. Segments unequal; all recurved.

DESCRIPTION, &c.—The stem of this species is scarcely any longer than the flowers, which have long tubes, and larger segments; and which are produced several together from the same spathe. When they wither, the segments roll up at the end of the tube, so as to have the appearance of a very small bud at the end of a long peduncle. The leaves are not very long, and they are produced in fascicles. The species is a native of the Cape, and was introduced in 1802.

#### 11.—*MORÆA EDULIS*, *Ker.* THE EATABLE *MORÆA*.

SYNONYMES.—*Iris edulis*, *Lin.*; *I. capensis*, *Bunn.*; *I. longifolia*, *Schneevoght*; *Moræa vegeta*, *Jacq.*; *M. fugax*, *Murr.*; the long-leaved *Moræa*.

ENGRAVINGS.—*Bot. Mag.* t. 613; and our *fig.* 4, in Plate 2.

SPECIFIC CHARACTER.—Stem many-flowered; much shorter than the linear leaf. Inner segments of the perianth linear; outer ones beardless.

DESCRIPTION, &c.—*Schneevoght*, a Dutch botanist, asserts that the leaves of this species sometimes grow five feet long. The flowers are delightfully fragrant; and vary in colour from a bright pinkish-lilac to a dark blue. They are very short-lived, seldom lasting longer than five or six hours; but as several are produced from the same spathe, they open in succession. It is a native of the Cape, where it was found growing in the lowlands close to Cape Town; the soil in which it is grown should therefore be vegetable mould and peat, or sandy loam. It was introduced in 1792. It generally flowers in May.



12.—*MORÆA ANGUSTA*, *Ker.* NARROW-LEAVED *MORÆA*.SYNONYMES.—*Iris angusta*, *Thunb.*; the rolled-leaved *Moræa*.ENGRAVINGS.—*Bot. Mag.* t. 1276; and our *fig. 2*, in Plate 2.

SPECIFIC CHARACTER.—Glabrous. Leaf filiform, erect. Inner segments of the perianth lanceolate, obtuse.

DESCRIPTION, &c.—Another very distinct species. The stem is round, the spathe is round, and the leaves are rolled together, so as to look round also. The bulb is oblong, with very strong woody fibrous roots projecting from the sides. The flower is loose, and rather oddly shaped, the petal-like stigmas bending so as to form right angles. A native of the hills near the Cape, whence it was introduced in 1790.

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 OTHER SPECIES OF *MORÆA*.
 

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So very little is known of the following species, that it has not been thought worth while to keep them under different headings. They are all natives of the Cape of Good Hope.

*M. MINUTA*, *Ker.*

A very small plant, with yellow flowers; introduced in 1825.

*M. TRISTIS*, *Ker.* *Bot. Mag.* t. 577.

The flowers are blue and yellow, with a shade of brown; but the colours are dull. Introduced in 1768.

*M. TRICOLOR*, *And.* *Bot. Rep.* t. 83.

The flowers resemble those of the preceding species in shape, but their colours are brown, red, and yellow. Introduced in 1809.

*M. PLUMARIA*, *Ker.*

Has blue flowers, and was introduced in 1825.

*M. BITUMINOSA*, *Ker.* *Bot. Mag.* 1045; *I. BITUMINOSA*, *Thunb.*

Greatly resembling *M. viscaria* in form, though not in colour; the outer segments being yellow, and the inner ones red. Introduced in 1787.

*M. POLYSTACHYA*, *Ker.*

This species has many spikes of blue flowers, and was introduced in 1825.

*M. SETACEA*, *Thunb.*

The leaves are bristle-parted, and the flowers blue. Introduced in 1825.

*M. ODORA*, *Sal.*

This species has white and very fragrant flowers. Introduced in 1792.

*M. LONGIFOLIA*, *And.* *Bot. Rep.* t. 45; *M. EDULIS*, *var. LUTESCENS*, *Bot. Mag.* t. 1238; with many other synonymes.

The flowers are pale yellow, and very loose, the inner segments and stigmas being scarcely distinguishable from the outer ones. Introduced in 1808.

## GENUS III.

HERBERTIA, *Swt.* THE HERBERTIA.*Lin. Syst.* MONADELPHIA TRIANDRIA.

GENERIC CHARACTER.—Perianth 6-parted, with a very short tube, the three inner segments much shorter than the outer ones. Stamens three, monadelphous. Stigmas three, petaloid, bifid.

DESCRIPTION, &c.—There are only two species known of this very beautiful and distinct genus; which was named, by Sweet, in honour of the Honourable and Reverend William Herbert, so well known for the great attention he has paid to bulbous plants. The principal characteristics of the genus are the very short tube of the perianth, and the great difference of size between the outer and inner segments. The three stamens are also connected, for about half their length, into a column; and the capsule is three-celled, with numerous horny seeds, which *H. pulchella* produces in great abundance.

1.—HERBERTIA PULCHELLA, *Swt.* THE BEAUTIFUL HERBERTIA.

ENGRAVINGS—*Swt. Brit. Flow. Gard. t. 222*; and our *fig. 1*, in Plate 3.

SPECIFIC CHARACTER.—Leaves narrow, sword-shaped, acute at both ends, and plicate. Segments of the perianth bearded at the base.

DESCRIPTION, &c.—The bulb is small, and clothed with several very dark brown, smooth, membranaceous shells. The leaves are short, narrow, and ending in a sharp point; and the spathe is two-valved: each bulb thus generally producing two flowers. It is a native of an island in the Bay of Maldonado, near the Straits of Magellan. The bulbs should be planted in April, in light sandy soil, (a pit about a foot deep, and a foot in diameter being made for them, and filled with that soil, if necessary), and taken up in autumn as soon as the leaves begin to wither. When grown in pots, the pots should be well drained, and the soil should be a mixture of equal parts of turfy loam broken up small, peat, and sand.

2.—*H. PUSILLA*, *Swt.* *FERRARIA PUSILLA*, *Lk.* and *Otto.*

Is a dwarf plant, with striped flowers, a native of Brazil, introduced in 1830; but which appears to have been since lost.

## GENUS IV.

CYPELLA, *W. H.* THE CYPELLA.*Lin. Syst.* MONADELPHIA TRIANDRIA.

GENERIC CHARACTER.—Perianth 6-parted, concave at the base; outer segments spreading, inner ones small, convolute, and reflexed at top. Stamens 3, monadelphous at the base. Style slender. Stigmas 3-lobed, segments trifid, appendiculate at the base on both sides.

DESCRIPTION, &c.—A very remarkable genus, of which only one species has been discovered. *Cypella* signifies cup-like, and alludes to the form of the corolla; the petals being deeply indented at the base, so as to form a kind of cup. This peculiarity, and that of the outer segments being spreading, and not reflexed, are the chief distinctions of the genus. Each bulb also produces many flowers.



CYPELLA HERBERTI, *W.* THE HONOURABLE AND REVEREND GEORGE HERBERT'S CYPELLA.

SYNONYMES.—*Tigridia Herberti*, *W. H.*, in *Bot. Mag.*; *Moræa* 1810; *Brit. Flow. Gard.* 2nd ser. t. 33; and our *fig. 2*, in Plate 3.  
*Herberti*, *Lindl.*; *Marica Herbertiana*, *Ker.* SPECIFIC CHARACTER.—Leaves long, lanceolate, acute, rather glaucous,  
 ENGRAVINGS.—*Bot. Mag.* t. 2599; *Bot. Reg.* t. 949; *Bot. Cab. t.* plicate. Stem leafy, branched.

DESCRIPTION, &c.—The plant grows about two feet high, with a very slender stem, which produces many flowers. The bulb is solid, and the leaves are broad, erect, and plaited like those of a Palm. The species is a native of South America, near Buenos Ayres, whence it was imported in 1823; and it was named, by the Honourable and Reverend William Herbert, in honour of his brother. It should be planted in light soil, and may remain in the ground for several years without taking up, if it be protected in winter during severe weather with a mat, or some other slight covering. It ripens abundance of seeds, but it does not appear that any varieties have been produced.

## GENUS V.

PHALOCALLIS, *W. H.* THE PHALOCALLIS.

*Lin. Syst.* MONADELPHIA TRIANDRIA.

GENERIC CHARACTER.—Perianth cup-shaped at the base; outer segments spreading, inner ones small and revolute. Stamens three, monadelphous at the base, and reflexed at the apex. Anthers adhering to the style, cup-shaped at the top, and three-lobed. Stigmas emarginate. Capsule indehiscent. Seeds winged.

DESCRIPTION, &c.—Only one species has been introduced. The genus was found by the Hon. and Rev. W. Herbert; and its name alludes to “the delicacy of the cone” formed in the centre of the flower, by the petal-like crests of the stigmas; the Greek words of which it is composed signifying literally “a pretty cone.”

PHALOCALLIS PLUMBEA, *W. H.* THE LEAD-COLOURED PHALOCALLIS.

SYNONYME.—*Cypella plumbea*, *Lindl.*, in *Bot. Reg. Mis.* for 1838, p. 71. perianth pubescent in the middle. Lateral segments of the style  
 ENGRAVINGS.—*Bot. Mag.* t. 3710; and our *fig. 3*, in Plate 3. scimeter-shaped, furnished with three reflexed crests, the inner ones  
 SPECIFIC CHARACTER.—Plant glaucous; minor segments of the transverse, two-horned.

DESCRIPTION, &c.—This plant when first introduced was supposed to belong to *Cypella*, but it has been since found to be perfectly distinct; from the different form of the stigma, and from the capsule having no apparent opening when ripe, though its covering is very thin and perishable; while that of *Cypella* is of strong texture and opens conspicuously at one end. Popularly, the two plants are easily distinguished by the flowers of the *Cypella* lasting several days, and many flowers being produced in succession from the same bulb, from July to November; while the bulb of *Phalocallis* throws up a tall strong flower-stalk, which only produces a single flower, and that only lasts a few hours. The leaves of the *Phalocallis* remain on all the year; and the plant, being a native of Mexico, requires protection during winter. It was introduced in 1838; and there are plants in the garden of the London Horticultural Society, though it is still rare in collections.







## GENUS VI.

VIEUSSEUXIA, *Dec.* THE VIEUSSEUXIA, OR PEACOCK IRIS.*Lin. Syst.* MONADELPHIA TRIANDRIA.

GENERIC CHARACTER.—Perianth 6-parted, the alternate segments very small, and the tube very short. Stamens three, monadelphous. Stigmas three, petaloid.

DESCRIPTION, &c.—Nearly all the species of this genus belonged originally to the genus *Iris* of Linnæus; they were afterwards removed to the genus *Moræa* by Mr. Ker; but botanists now place them in the genus *Vieusseuxia*, established by Professor De Candolle, and named by him in honour of his friend Dr. Vieusseux, of Geneva. The species are so beautiful, that it seems a great pity that they should be called by so unpronounceable a name; and I have therefore preserved in their English names that of the Peacock Iris, by which they were formerly distinguished. The principal botanical difference between this genus and the genera *Iris* and *Moræa* consists in the circumstance of the stamens being what is called monadelphous; that is, joined together at the base so as to form a short column, and separating into three in the upper part. The genus *Vieusseuxia* is also distinguished from *Moræa* by the inner segments of the perianth, or flower, being very much smaller than the outer ones, and there being scarcely any tube. All the species of *Vieusseuxia* have very showy flowers; and they are all of very easy culture.

1.—VIEUSSEUXIA TRIPETALOIDES, *Dec.* THE THREE-PENDANT FLAG-FLOWER, OR TRIPID PEACOCK IRIS.

SYNONYMES.—*Iris* tripetala, *Lin.*; *Moræa* tripetala, *Ker*; three petal-like *Vieusseuxia*.

ENGRAVING.—*Bot. Mag.* t. 702.

SPECIFIC CHARACTER.—Leaf longer than the scape, which is 1-flowered; inner segments of the perianth subulate, outer ones bearded.

DESCRIPTION, &c.—A remarkable flower from its distinct division into three parts; the inner segments and dilated stigmas being laid on the outer segments so closely as to resemble three little flags or pendants. The general colour of the flower is a bright blue, but the outer segments are marked with pale yellow and bearded. The stem is long and slender, and quite round, as is the spathe; and the leaves are channelled and very long. It is a native of the Cape; but it is a rare species even there, and it is still more rare in England. It was introduced in 1802; and its culture is the same as that of the other Cape bulbs. It flowers in April and May.

2.—VIEUSSEUXIA PAVONIA, *Dec.* THE ORANGE-COLOURED PEACOCK IRIS.

SYNONYMES.—*Iris* Pavonia, *Lin.*; *Moræa* Pavonia, *Ker*.

ENGRAVINGS.—*Bot. Mag.* t. 1247; and our *fig.* 4, in Plate 3.

SPECIFIC CHARACTER.—Pubescent. Leaf solitary. Three inner

segments of the perianth small, linear, erect; outer ones longer, beardless.

DESCRIPTION, &c.—This species, which has orange flowers, is the true Peacock Iris, being the *Iris Pavonia* of Linnæus; though it is not the species which generally bears that name in seed-shops and gardens. The flowers are showy in their colour, but they do not produce much effect unless several bulbs are planted together, each sending up only one solitary leaf, and a long slender flower-stalk producing only one flower. The species is a native of the Cape of Good Hope, whence it was introduced in 1790; it flowers in May or June, and its culture is the same as that of the other Cape bulbs.



### 3.—VIEUSSEUXIA VILLOSA, *Spring*. THE PURPLE PEACOCK IRIS, OR HAIRY FLAG-FLOWER.

SYNONYMES.—*Iris villosa*, *Lin.*

ENGRAVINGS.—*Bot. Mag.* t. 571; and our *fig. 5*, in Plate 3.

SPECIFIC CHARACTER.—Leaf furnished with lines of pubescence.

Stem pubescent. Spathe quite glabrous. Inner segments of the perianth tridentate, the middle tooth elongated; outer segments large, bearded.

DESCRIPTION, &c.—This is a much handsomer species than the Orange-coloured Peacock Iris; and it differs from that species not only in the colours of the flower, which are very beautiful, but in the flower-stem being much shorter, and the leaf broader; so that, though each bulb only sends up one flower and one leaf, the plant has not so naked an appearance as that of the Orange Peacock Iris. The present species is a native of the Cape, and it was introduced in 1789. As it generally flowers in March, or very early in April, it ought to be planted in autumn or mid-winter; and it succeeds best when grown in very sandy loam, in a well-drained pot. It may, however, be planted in the open border in April, when it will not flower till June.

### 4.—VIEUSSEUXIA TRICUSPIS, *Spring*. THE THREE-POINTED PEACOCK IRIS.

SYNONYMES.—*Iris tricuspis*, *Thun.*; *I. tricuspidata*, *Lin. fil.*; *Vieusseuxia spiralis*, *Dec.*; *V. aristata*, *De la Roche*; *V. a. var.* *Houtt.*; *Moræa tricuspis*, *Ker.*

ENGRAVING.—*Bot. Mag.* t. 696.

SPECIFIC CHARACTER.—Glabrous. Stem a little branched. Segments of the perianth converging at the base; outer ones roundish-ovate, beardless; inner ones small, tricuspidate.

DESCRIPTION, &c.—The stem is slender, but frequently branched; and the flower is devoid of fragrance, of a dingy cream colour, and bearded with dark purple. A native of the Cape of Good Hope, where it is found in great abundance on the hills. Introduced in 1803, and requiring the same culture as the other Cape bulbs. It flowers abundantly in May and June, and is easily propagated by offsets, of which it produces a great number.

### 5.—VIEUSSEUXIA GLAUCOPIS. *Dec.* THE WHITE-FLOWERED VIEUSSEUXIA, OR COMMON PEACOCK IRIS.

SYNONYME.—*Iris Pavonia*, *Lin.*

ENGRAVINGS.—*Bot. Mag.* t. 168; and our *fig. 6*, in Plate 3.

SPECIFIC CHARACTER.—Glabrous. Stem branched. Leaves linear.

Outer segments of the perianth spreading, large, bearded; inner ones very small, tridentate, the middle tooth the largest.

DESCRIPTION, &c.—The Common Peacock Iris is a delicate-looking plant, about a foot and a half high, bearing generally two flowers in a spathe, and having frequently two spathes from one bulb. It is one of the most common bulbs in the seed-shops next to the Hyacinths and Crocuses. There are many varieties, as the bulbs are raised from seed in Holland, and sent over here for sale. It is a native of the Cape of Good Hope, and was introduced in 1794. It should be grown in equal parts of peat, vegetable mould, and sand; and the bulbs, when grown in the open air, should be planted in April, about three inches deep; and as soon as they appear above ground, they should be abundantly supplied with water till they go into flower, when the water should be supplied more sparingly; and after the flowers drop, very little should be given till the leaves begin to wither and the bulbs are ready for taking up.

6.—VIEUSSEUXIA BELLENDENI, *Swt.* MR. BELLENDEN KER'S VIEUSSEUXIA, OR THE  
YELLOW PEACOCK IRIS.

SYNONYME.—*Moræa tricuspis*, *var. lutea*.

ENGRAVINGS.—*Bot. Mag.* t. 772; and our *fig. 7*, in Plate 3.

SPECIFIC CHARACTER.—Glabrous. Stem a little branched. Outer

segments of the perianth roundish, ovate; inner ones small, bicuspidate.

DESCRIPTION, &c.—A very distinct species, from the inner segments of the perianth having only two points, while those of *V. tricuspis*, of which it was formerly supposed to be a variety, have three points. Two or more flowers are produced from each bulb, and the leaves are very long and narrow. The species is a native of the Cape, and it was introduced in 1803. It flowers in June and July, and requires the usual treatment of Cape bulbs.

OTHER SPECIES OF VIEUSSEUXIA.

V. TENUIS, *Ram. et Schul.*; MORÆA TENUIS, *Ker*, *Bot. Mag.* 1047; IRIS TRICUSPIS, *var. MINOR*, *Jacq.*

A curious little bulb, with a single long and narrow leaf, and a very long and slender flower-stalk, crowned with a small single brownish-yellow flower, very much resembling, at the first glance, *Moræa viscaria*. It is a native of the Cape, introduced in 1807, and flowering in May and June.

V. SPIRALIS, *Ram. et Schul.*

This species has yellow twisted flowers. It is a native of the Cape, and was introduced in 1825.

V. UNGUICULARIS, *De la Roche*; MORÆA UNGUICULATA, *Ker*. *Bot. Mag.* t. 593.

A very elegant plant, with white flowers, spotted with reddish-brown, and remarkable for the long claws of the outer segments of the perianth, which give the flower a remarkably light and elegant appearance. The leaves are very long, and each flower-stalk, though very slender, produces two flowers. It is a native of the Cape, and was introduced in 1800.

GENUS VII.

HOMERIA, *Vent.* THE HOMERIA.

*Lin. Syst.* MONADELPHIA TRIANDRIA.

GENERIC CHARACTER.—Perianth 6-parted, spreading, with a very short tube; the three alternate segments rather smaller than the others. Stamens three, monadelphous. Stigma trifid, with bifid fringed segments.

DESCRIPTION, &c.—Most of the plants belonging to the genus *Homeria* have very few of the peculiarities of the *Iridaceæ* perceptible in their flowers. They were separated from the genus *Moræa* by Ventenat, a French botanist, who named his new genus in honour of Homer, though why it would be difficult to say. All the species are natives of the Cape of Good Hope; they are all ornamental; and they all require the same treatment. They are also all remarkable for the abundance and long continuance of their flowers; and in this respect they offer a striking contrast to the plants belonging to the genus *Vieusseuxia*, the flowers of which are not only as



evanescent as they are beautiful, but are produced singly; only one flower, in most cases, springing from each bulb. The stems of the *Homerias* are also thicker and stronger; while those of the Peacock Iris are so slender as to be unable to support themselves, and consequently give the idea of their being unnaturally drawn up and deformed. The *Homerias* are therefore much better suited to the possessors of small gardens, as their flowers will afford a brilliant show nearly all the summer, and will thus amply repay the trouble bestowed in cultivating the plants.

### 1.—*HOMERIA SPICATA*, *Swt.* THE SPIKE-FLOWERED *HOMERIA*.

SYNONYME.—*Moræa spicata*, *Ker.*

ENGRAVINGS.—*Bot. Mag.* t. 1283; and our *fig. 1*, in Plate 4.

SPECIFIC CHARACTER.—Stem flexuose, furnished with a sheathing

1-flowered spathe at every joint. Perianth salver-shaped; segments nearly equal, oblong. Stigmas petal-formed, bidentate.

DESCRIPTION, &c.—A very beautiful plant, having a many-jointed flexible stem, producing a flower-spathe at every joint; the whole stem thus forming a long, remotely-flowered spike, with five or six, or even more, beautiful flowers expanded upon it at one time. The leaves are very long, and moderately broad; and the bulbs, or rather corms, for they are solid, form every year the new one over the old one, like those of the *Crocus*, with the offsets at the side. As they are thus in no danger of burying themselves too deep, they will not require taking up and replanting every year, if it can be contrived to give them in any other way a season of complete rest; but as this is very difficult to be accomplished when they are planted in the open ground, they generally succeed best when they are taken up as soon as the leaves wither, and replanted in February or March. If they are suffered to remain in the ground, the quantity of water given to them should be gradually lessened, till at last they should be left entirely without any, and so covered as to keep them perfectly dry till the return of the growing season, when they should be abundantly supplied with moisture. The soil should be a very sandy loam, if the plants are grown in the open air; and equal parts of sand, peat, and decayed leaves, if they are grown in boxes or pots.

### 2.—*HOMERIA COLLINA*, *Swt.* THE HILL-SIDE *HOMERIA*.

SYNONYMS.—*Moræa collina*, *Ker*; *Sisyrinchium collinum*, *Cav.*

ENGRAVINGS.—*Bot. Mag.* t. 1033; *Redouté sur les Liliacées*, t. 250.

SPECIFIC CHARACTER.—Stem terete, branched, furnished on the upper

part with 1—3 flowered spathes. Perianth nearly equal; segments elliptic, oblong, acutish; outer ones each furnished with a melliferous scale at the base.

DESCRIPTION, &c.—A very showy orange-scarlet flower, only differing from the following species in its colour, and in the points of the segments of the perianth being more pointed. The bulb is solid, and is covered with fibrous coats; the leaves are long; and the stem produces numerous spathes, each bearing two or three flowers. This species was introduced in 1768, and it flowers in May. As its flowers are very numerous and brilliant, a very good effect is produced by growing it in boxes under a veranda, intermingled with the yellow and orange-flowered species, *H. ochroleuca* and *H. aurantiaca*; but the boxes should be so placed that either the grass of the lawn, or trees in the shrubbery in the distant garden, may form a background to them. Something of this kind should always be contrived where the flowers of a plant are showy and its leaves few, particularly if its colour be reddish. If, on the contrary, they are so placed as to have a gravel-walk or red brick-house for a background, half their effect will be destroyed.



*Iris sibirica* L. *Iris sibirica* L. *Iris sibirica* L.

*Iris sibirica* L. *Iris sibirica* L. *Iris sibirica* L.

*Iris sibirica* L.





3.—*HOMERIA OCHROLEUCA*, *Sal.* THE CREAM-COLOURED HOMERIA.

SYNONYMES.—*Moræa collina*, *var. Ker*; *M. iriopetala*, *Vahl.*; *M. juncea*, *Lin.*; *Sisyrinchium elegans*, *Redouté*.

ENGRAVINGS.—*Bot. Mag.* t. 1103; *Redouté sur les Liliacées*, t. 171; and our *fig. 2*, in Plate 4.

SPECIFIC CHARACTER.—Stem terete, branched, and furnished with many 1—3-flowered spathes. Segments of the perianth nearly equal, obovate, rounded at the extremity.

DESCRIPTION, &c.—Closely resembling the preceding species, except in the colour of the flower, which is of a pale yellow-ochre tinge, or yellowish cream colour; and in the shape of the segments of the perianth, which are rounded at the extremity instead of being pointed. Both species are very handsome, and valuable from the great number of flowers produced from each bulb; and they require the same treatment, both flowering in May. *H. ochroleuca* was introduced in 1807.

4.—*HOMERIA LINEATA*, *Swt.* THE LINED-LEAVED HOMERIA.

ENGRAVINGS.—*Swt. Brit. Flow. Gard.* t. 178; and our *fig. 3*, in Plate 4.

SPECIFIC CHARACTER.—Leaves glaucescent, with incurved margins,

longer than the branched scape. Spathes many-flowered, elongated. Segments of the perianth acute, outer ones rather the longest.

DESCRIPTION, &c.—The bulb of this species is solid; and it is clothed with a hard leathery covering, terminating in a number of long stiff bristles, which surround the leaves and flower-stem like a fringe. The leaves are about three feet long, of a stiff leathery texture, with the points bending down, and marked with a white line down the centre, and numerous, strong, deeply-indented green lines on each side. The flower-stem is about two feet long; and it produces a long succession of flowers, which expand in the morning, and close at night. The species was introduced in 1825. It begins to flower in May, and continues producing a succession of blossoms till July. The flowers are remarkable for their very peculiar and coppery hue, and for the kind of metallic lustre which they exhibit in some lights. They are not suited for pots or boxes, from the length of their flower-stalks and the evanescent nature of their flowers; but they should be grown in the open garden at the back of a border, in a raised bed of dry sandy soil; and, if possible, they should be backed by clumps of evergreens, a laurel hedge, or some other similar object, having smaller plants in front near the walk. As this species of *Homeria* will continue flowering nearly all the summer, the bulbs may be left in the ground till September or October; or if they are so situated that they can be sheltered from heavy rains and snow, they may remain in the ground all the year. When they are taken up, they should be replanted early in March. It must be always observed, that these bulbs, when left in the ground all the year, are not in half so much danger from frost, as from heavy and continued rains.

5.—*HOMERIA AURANTIACA*, *Swt.* THE ORANGE-COLOURED HOMERIA.

SYNONYME.—*Moræa collina*, *var. miniata minor*, *Ker.*

ENGRAVINGS.—*Bot. Mag.* t. 1612; and our *fig. 4*, in Plate 4.

SPECIFIC CHARACTER.—Leaves glaucescent, longer than the scape.

Spathe 2—4-flowered, awned. Segments of the perianth nearly equal, oblong-lanceolate, acute, reflexed.

DESCRIPTION, &c.—This species has very long leaves, and a very slender flower-stem, which produces from one to four spathes, each with a single flower. The flower is loose, and the segments long and very much reflexed. The species was introduced in 1810, and, unlike most other Cape bulbs, it does not flower till autumn. For this reason it should always be grown in a pot, as it cannot mature its leaves in winter in the open air. It is not a very desirable species for an amateur gardener, on account of the weakness of its flower-stem, and the great



length of its leaves, which makes them liable to get bruised and discoloured at the extremity. It is, however, useful in some cases, where flowers are wanted in a greenhouse, or to set out under a veranda late in the year; as it comes into flower at a season when nearly all the other bulbs have been long over.

#### 6.—HOMERIA MINIATA, *Swt.* THE DWARF HOMERIA.

SYNONYME.—*MORÆA miniata*, *Andr.*

ENGRAVINGS.—*Swt.* Brit. Flow. Gard. t. 152; Bot. Rep. t. 404.

SPECIFIC CHARACTER.—Leaves striated, glaucous, flaccid, longer than

the branched scape. Segments of the perianth acutish, bearded at the base; filaments rather villous.

DESCRIPTION, &c.—The bulb is solid, and clothed with a hard shell, covered with a kind of net-work. The leaves are long and grass-like, and marked with numerous narrow lines, like those of *H. lineata*, but without the central white line. The flowers also resemble those of *H. lineata* in their number and form; but they are smaller, more numerous, and of a much darker colour. The species was introduced in 1799, but soon lost; it was re-introduced in 1825, and is now occasionally to be met with; but it has never become common in collections.

#### OTHER SPECIES OF HOMERIA.

##### H. PORRIFOLIA, *Swt.* THE LEEK-LEAVED HOMERIA.

This species resembles *H. lineata*, but has scarlet flowers.

##### H. ELEGANS, *Jacq.*

The flowers are orange and green. Both species are said to have been introduced, but the year of their introduction is not known.

#### GENUS VIII.

#### HEXAGLOTTIS, *Vent.* THE HEXAGLOTTIS.

##### *Lin. Syst.* MONADELPHIA TRIANDRIA.

GENERIC CHARACTER.—Perianth 6-parted, nearly equal. Stamens three, monadelphous. Stigmas three, spreading, biparted.

DESCRIPTION, &c.—This genus strongly resembles *Homeria* in its habit of growth and manner of flowering; but it differs in the shape of the segments of the perianth, in their being all nearly equal, and in the manner in which the flowers roll up when they begin to decay. Only two species of the genus are known. The name *Hexaglottis* signifies six-tongued, in allusion to the tongue-like shape of the six segments of the perianth.

##### 1.—HEXAGLOTTIS FLEXUOSA, *Swt.* THE FLEXIBLE HEXAGLOTTIS.

SYNONYMES.—*H. longifolia*, *Vent.*; *MORÆA flexuosa*, *Lin.*; *Ixia longifolia*, *Jacq.*

ENGRAVINGS.—Bot. Mag. t. 695; and our *fig. 5*, in Plate 4.

SPECIFIC CHARACTER.—Scape a little branched, and flexuose; leaves reflexed, somewhat undulated. Segments of the perianth oblong, spreading.

DESCRIPTION, &c.—The bulb-tuber or corm of this species is so floury that it is eaten roasted at the Cape, and constitutes one of the principal articles of food among the Hottentots. The time when it is considered most

fit for eating is the dry season ; and at this period, when roasted, its taste very much resembles that of a roasted chesnut. The flowers, which are produced several at a time, continue to blossom several weeks in succession ; and when they wither, they curl up spirally, so as to be quite ornamental. They have, however, no fragrance. The plant is a native of the sandy plains near the Cape of Good Hope, and it was introduced in 1803. Its culture, like that of all the Cape bulbs, consists in growing it in very sandy soil, and giving it alternate seasons of excessive dryness and excessive moisture ; and provided the end of keeping it quite dry can be obtained by covering it in any effectual manner, it will not require taking up in autumn and replanting in February. It flowers in May and June.

H. VIRGATA, *Swt.*

The flower-scape is much branched and twiggy, and the leaves bristly. In other respects it resembles the preceding species. It was introduced from South Africa, in 1825.

GENUS IX.  
FERRARIA, *Ker.* THE FERRARIA.

*Lin. Syst.* MONADELPHIA TRIANDRIA.

GENERIC CHARACTER.—Perianth 6-parted ; segments undulated, inner ones the smallest. Stamens three, monadelphous. Stigmas three, pencil-formed. Capsule inferior.

DESCRIPTION, &c.—The plants belonging to the genus *Ferraria* are perhaps more curious than beautiful. They are, however, all deserving of cultivation from their singularity. The name was given to the genus in honour of Ferrarius, a botanist, who published a very curious work on plants in 1646, in which the first species of the genus was described. Nearly all the species known are natives of South Africa, near the Cape of Good Hope ; and these all require the same treatment as the other Cape bulbs. As, however, it is very troublesome to take up such small bulbs every year, they are generally grown in pits which can be covered during winter ; or in beds raised in the centre, and sloping to each side, so as to leave the bulbs planted in the ridge of the bed quite dry. Thus treated in warm situations and very sandy soil, they will require no other care ; but where the situation is not very warm, the ridge of the bed may be covered with mats or straw. They all flower very early in spring ; so that if taken up when the leaves begin to wither, they should be replanted in October, and kept warm and nearly dry till December or January, when they should be moderately supplied with water ; and this supply should be regulated according to the nature of the bulb, those that flower in the beginning of February requiring, of course, water to be administered earlier, and more abundantly, than those that do not begin to flower till the end of March. When the bulbs are left the whole year in the ground, the supply of water should be stopped as soon as the leaves begin to wither, and not renewed till December or January, when the bulbs show signs of returning vegetation. All the species are increased by offsets, which are produced freely.

1.—FERRARIA ANTHEROSA, *Ker.* THE GREEN VARIEGATED FERRARIA.

SYNONYMES.—*F. Ferrariola*, *Ait.* ; *F. viridiflora*, *And.* ; *F. viridis*, *Hort.*

ENGRAVINGS.—*Bot. Rep.* t. 285 ; *Bot. Mag.* t. 751.

SPECIFIC CHARACTER.—Stem erect, branched, many-flowered. Leaves distich, ensiform, acutish, glaucous, keeled. Segments of the perianth acuminate, involute at the apex. Lobes of anthers distinct.

DESCRIPTION, &c.—The flowers are small, and of no great beauty, being almost hidden by the spathes and leaves, which are coarse-looking and of a dull glaucous hue. The specific name *antherosa* signifies red-anthered ;

the lobes of the anthers having the appearance of little tufts of red threads. This kind of *Ferraria* was introduced in 1800. It flowers in March, and consequently should be planted in autumn, requiring protection from rain, and a dry, warm situation, during the early part of the winter, and warmth and abundant moisture in January and February. To attain these ends, the bed may be covered with hoops, over which mats have been stretched; or it may be covered with a thatching of straw, raised in the centre like a pent-house; either expedient being sufficient to ensure both dryness and warmth. When, however, the plants begin to grow in spring, the covering should be removed for a short time in the middle of every day, to give the plant air, without abundance of which it is impossible that they can thrive.

## 2.—FERRARIA UNCINATA, Swt. THE HOOK-LEAVED FERRARIA.

ENGRAVING.—Brit. Flow. Gard. t. 161; and our *fig.* 4, in Plate 5.

SPECIFIC CHARACTER.—Stem short, a little branched, shorter than the leaves. Leaves linear, ensiform, striated, runcinate at the apex.

Spathe usually 2-flowered. Segments of the perianth acuminate, involute at the apex. Lobes of anthers approximate, but distinct at the base.

DESCRIPTION, &c.—A very remarkable little plant, with a bulb, or rather tuber, like a flattened potatoe, and long tapering segments to the perianth, so curiously curled and wrinkled, that they look almost like bunches of worsted thread, that has been unravelled from a knitted stocking. The colour of these segments is green, with a bright blue stain in the centre. The whole plant does not grow above four or six inches high; and its leaves have a very curious hook or claw at the extremity, whence the species takes its specific name. This *Ferraria* was introduced in 1825, and it flowers in May. Its dwarf size and curious flowers render it most suitable for growing in a pot, which should always be placed in situations where the flowers will be near the eye, as they make no show at a distance, and indeed require to be examined closely. They are produced in succession for several days; and then the species possesses no further beauty till the following year. It should be grown in a mixture of loam, peat, and sand; and the pots should be well drained with broken potsherds. When this species is grown in the open ground, it should be in little raised ridges in a bed or border, or on rock-work; a little pit or cavity, in the latter case, being made in the rock-work, so contrived as to allow of drainage at bottom, and filled with compost of sand, peat, and loam. When grown in the open ground the bulbs may be either taken up in autumn or left in the ground; in the latter case taking care to protect them from the attacks of mice. These little animals are indeed particularly fond of the tubers of all the kinds of *Ferraria*; and they will never cease nibbling at them, if left within their reach, till all the solid part of the tuber is consumed.

## 3.—FERRARIA UNDULATA, Lin. THE CURLED FERRARIA.

SYNONYMS.—Flos indicus, *Ferrar.*; Gladiolus indicus, *Moris.*; Narcissus indicus, *Rud.*; Iris stellata, *Barrel.*

ENGRAVING.—Bot. Mag. t. 144.

SPECIFIC CHARACTER.—Stem branched, few-flowered, longer than

the leaves. Leaves distich, glaucous, ensiform, acutish, keeled. Spathes generally 2-flowered. Segments of the perianth acuminate. Lobes of the anthers approximate.

DESCRIPTION, &c.—The flowers of this species are rather larger than those of most of the other kinds; and the leaves are distinctly marked with an edge of white. The species is interesting from its having been first described and figured by Ferrarius (after whom the genus was afterwards named) in 1646. The flowers only last one day, opening in the morning and fading before night; but a great many are produced in succession from each bulb or tuber. The bulbs should be potted in autumn, and protected during winter, as they flower



from February to May. The species was brought from the Cape of Good Hope to Holland, about 1640; as Ferrarius, whose work was published at Amsterdam, calls it a curious and rare flower, lately brought from India, almost all countries being at that time called India that were beyond the boundaries of Europe. It does not, however, appear to have been introduced into England till 1755. This species is a favourite flower in Italy, and few persons have ever received a packet of roots from Italy without its being among the number. It is on this account a very suitable ornament to the gardens, or rather to the terraces and verandas, of a villa in the Italian style; as a little attention to the accessories of a mansion built in any particular style adds wonderfully to the effect of the whole.

#### 4.—FERRARIA ATRATA, Lodd. THE DARK-FLOWERED FERRARIA.

ENGRAVINGS.—Lodd. Bot. Cab. t. 1356.

SPECIFIC CHARACTER.—Stem a little branched. Leaves distich, | keeled, acute, much longer than the stem. Segments of the perianth  
acuminated.

DESCRIPTION, &c.—A most beautiful little plant, the flowers of which are more brilliant in their colours than those of any other species of the genus. It was introduced in 1825; and its culture is the same as that of *F. uncinata*. It is, however, so much more brilliant in its colours than that species, that it may be grown in boxes, or even in beds in the open garden, with very good effect.

#### 5.—FERRARIA DIVARICATA, Swt. THE SPREADING ANTHERED FERRARIA.

ENGRAVING.—Swt. Brit. Flow. Gard. t. 192.

SPECIFIC CHARACTER.—Stem rather flexuose, branched at the apex. | Leaves linear, ensiform, acute, striated, glaucescent. Spathe many-  
flowered. Lobes of anthers divaricate.

DESCRIPTION, &c.—The bulb is flat, and nearly square, looking in its dry state almost like a flat greyish pebble. The plant grows about eighteen inches high, with a somewhat flexible stem, and sharply-pointed sword-like leaves. The flowers are much larger, and better shaped, than those of most of the other species; and several of them are produced in succession from the same spathe. The most remarkable part of the flower is, however, the anthers, which resemble a spreading tuft of feathers. Introduced in 1826. The culture is the same as in the other species.

#### 6.—FERRARIA OBTUSIFOLIA, Swt. THE OBTUSE-LEAVED FERRARIA.

ENGRAVING.—Swt. Brit. Flow. Gard. t. 148.

SPECIFIC CHARACTER.—Stem erect, much branched, many-flowered. | Leaves distich, ensiform, obtuse, glaucous, keeled on both sides.  
Lobes of anthers approximate.

DESCRIPTION, &c.—This species is very distinct, from its remarkable colour and its potato-like root. It grows about eighteen inches high, and throws out so many branches as to form quite a bush. As it flowers much later than the other species (not till June or July), it may be taken up every winter, and need not be planted out till March. It was introduced in 1825, and is well deserving of cultivation, from the great profusion and beauty of its flowers.

#### OTHER SPECIES OF FERRARIA.

##### F. ANGUSTIFOLIA, Swt.

This species has long narrow leaves, and striped flowers. It was introduced in 1825; and flowers in April and May.

##### F. ELONGATA, Grah.

The flowers are dark purple, and are produced from May to July. This species is a native of Monte Video, and was introduced in 1828.

## GENUS X.

TIGRIDIA, *Jussieu*. THE TIGER-FLOWER.*Lin. Syst.* MONADELPHIA TRIANDRIA.

GENERIC CHARACTER.—Perianth 6-parted; three outer segments large, ovate, spoon-shaped at the base, sessile; three inner ones smaller, unguiculate, sagittate, contracted in the middle. Stamens 3, monadelphous. Stigmas bipartite.

DESCRIPTION, &c.—The genus *Tigridia* was established by Jussieu from the tiger or rather leopard like spotting of the flowers. The flowers are indeed very remarkable, and though they are of very short duration, never lasting more than one day, they are produced in such abundance in succession, as to compensate for this defect; one plant will continue flowering for two or three months in succession, and during the whole of that time will make a splendid figure in the garden. Only two species of *Tigridia* are known, and both having tunicated bulbs, and very long fibrous roots, which descend perpendicularly, they should be planted in a very deep rich soil; which should either be of an open nature, or be kept so by the mixture of a sufficient quantity of sand, so as to allow a free passage for the descent of the roots, in the same way as is necessary for hyacinths. When a bed of the *Tigridia* is required, the rows should be a foot apart, and the bulbs at least six inches from each other in the rows. The earth in the bed should be pulverised, by digging or trenching, to the depth of at least eighteen inches; and if of a sandy loam, it will only require to be well manured with decayed leaves or part of an old hotbed; but if the soil should be naturally rather compact, it should be lightened by the addition of sand, in the proportion of about one part of sand to two of the common soil, and one of manure, throughout the bed. When the *Tigridias* are to be raised from seed, the seeds are sown in March or April on a hotbed, and transplanted into the open border in May. Here they may remain till the leaves begin to wither in autumn, when the young bulbs should be taken up, and kept for planting the ensuing spring.

1.—TIGRIDIA PAVONIA, *Ait.* THE COMMON TIGER FLOWER.

SYNONYMES.—*Ferraria pavonia*, *Lin.*; *F. Tigridia*, *Ker*; *Morrea Pavonia*, *Thun.*

ENGRAVINGS.—*Bot. Rep.* t. 178; *Redonté Lil.* t. 6; *Lodd. Bot. Cab.* t. 1424; *Bot. Mag.* t. 532; and our *fig. 1*, in Plate 5.

SPECIFIC CHARACTER.—Stem cylindrical. Outer segments of the perianth broad, ovate, obtuse, keeled, mucronate at the apex; inner ones elliptic, acuminate above the middle, but concave below it. Ovary three-furrowed.

DESCRIPTION, &c.—The splendid colours of this flower and the easiness of its culture render it a general favourite. Its only faults are, that its flowers have no fragrance, and that they are of very short duration. It is a native of Mexico, where it is called *Ocoloxochitl*. In its native country its bulb is considered medicinal; and it was on this account that it was sent to Europe by Hernandez, physician to Philip II. of Spain, when he was employed by the Spanish government to examine into “the virtues” of the plants of the New World. It has been also found in Peru. It was not introduced into England till 1796. The bulbs should be planted in the open ground in March or April, when they will flower in May or June, and they should be taken up in September or October, and tied in bunches, and hung up in a dry place till spring. They are sufficiently hardy to be left in the ground all the winter, were it not on account of the danger to which they are exposed from damp; and consequently if they can be kept quite dry they may remain in the ground. They will grow in any common garden soil, moderately rich, and not too stiff; but they succeed best where there is a mixture of sand,





*Illustration of the Iris flower, showing the main flower and two smaller flowers.*





to allow of the free descent of the roots. When grown in pots, the soil should be sand and vegetable mould, or loam. The bulbs produce abundance of offsets; and the plants ripen plenty of seed, which it is worth sowing, as, contrary to the general habit of bulbs, the seedlings will frequently blossom the second year. Whenever the Tigridias are planted so as to form a bed, care should be taken to give them a back ground of grass or evergreens, on account of the great gorgeousness of their colours.

## 2.—TIGRIDIA CONCHIFOLIA, Swt. THE SHELL-FLOWERED TIGRIDIA.

SYNONYME.—*T. oxypetala*, Moris.

ENGRAVINGS.—Brit. Flow. Gard. t. 128; Morison's Flora Conspicua, t. 20.

SPECIFIC CHARACTER.—Stem angular. Outer segments of perianth oblong-ovate, acutish, mutic; inner ones broad, ovate, acute above the middle, and concave below it. Ovary bluntly trigonal.

DESCRIPTION, &c.—The flowers are more of yellowish orange than scarlet, and the segments of the perianth are sharply pointed instead of being obtuse. The style also rises above the anthers, instead of being about equal with them. In every other respect the flowers are the same as those of *T. Paronia*; and the plants require exactly the same culture. *T. conchiflora* is a native of Mexico, whence it was introduced in 1825.

## GENUS XI.

### RIGIDELLA, W. H. THE RIGIDELLA, OR STIFF STALK.

*Lin. Syst.* MONADELPHIA TRIANDRIA.

GENERIC CHARACTER.—Perianth 3-parted. Segments contracted below the middle, with a concave revolute limb. Stamens three, monadelphous. Anthers linear. Stigmas 3, bipartite, papillose at the apex, appendiculate on the back. Capsule papyraceous. Seeds nearly globose.

DESCRIPTION, &c.—Only one species has as yet been discovered of this very beautiful genus, which takes its name from the peculiarity of the peduncle, though drooping during the continuance of the flower, becoming stiff and erect during the ripening of the seed. This is very remarkable; as the footstalk while it bears the flower is long and slender, and apparently very weak; though it afterwards becomes so strong and rigid as to carry the capsule quite erect, even when it is heavy with the seeds. The genus is also very distinct, from the total absence of the inner segments of the perianth, and the remarkable form of the seeds, in which the chalaza and raphe are very conspicuous.

### RIGIDELLA FLAMMEA, Lindl. THE FLAME-COLOURED RIGIDELLA.

ENGRAVINGS.—Bot. Reg. 1840, t. 16; and our *fig.* 2, in Plate 5.

SPECIFIC CHARACTER.—Leaves plicate. Flowers fasciculate, terminal, enclosed in a two-valved spathe.

DESCRIPTION, &c.—A very beautiful plant, growing from three to five feet high, with very broad, curiously plicate leaves, which look as though they had been regularly plaited by the hands of a skilful laundress. The flowers are numerous, all issuing from one spathe, and opening only one at a time. They are very handsome, from the brilliancy of their colour, and the peculiarity of their form. The plant is a native of Mexico, from which country it was sent home by Mr. Hartwig in 1833. It is apparently quite as hardy as the common tiger-flower, and it requires exactly the same culture. At present (1840) the Rigidella is, I believe, only in the possession of the London Horticultural Society.

## GENUS XII.

GALAXIA, *Thunb.* THE GALAXIA.*Lin. Syst.* MONADELPHIA TRIANDRIA.

GENERIC CHARACTER.—Spathe one, two-leaved. Perianth 6-cleft, with a long tube, and nearly equal segments. Stamens 3, monadelphous. Stigmas 3, divided.

DESCRIPTION, &c.—A genus of very pretty dwarf plants, most of them with large yellow flowers, and solid bulbs. This name of *Galaxia*, which signifies milk, alludes to the whiteness of the inner part of the bulb or corm. The bulbs of all the species are very small, but each produces several flowers; which, though they generally last but a few hours, expand in succession for several weeks from May till August, or even September and October. They are all natives of the Cape; and all require the usual treatment of Cape bulbs: that is, taking up, when the leaves begin to wither, and replanting in February or March; or leaving them in the ground all the winter, having first taken ample care to keep them dry.

1.—GALAXIA OVATA, *Thunb.* THE OVATE-LEAVED GALAXIA.SYNONYME.—*Ixia Galaxia*, *Lin.*; *Galaxia ciliata*, *Persoon*.

ENGRAVING.—*Bot. Mag.* t. 1208; ? *Bot. Reg.* t. 94; and our *fig.* 1, in Plate 6; ? *G. mucronularis*, *Sal.*

VARIETY.—*G. o.* 2, *purpurea*, *Ker.*; *Bot. Mag.* t. 1516; and our *fig.* 2, in Plate 6.

SPECIFIC CHARACTER.—Nearly stemless. Leaves ciliated, ovate-oblong, obtuse, plicate. Spathe 1-flowered.

DESCRIPTION, &c.—A pretty little plant, not growing above three or four inches high; with large bright yellow flowers possessing very little fragrance. The outer segments are slightly streaked with green. The flowers expand in May, and are very short-lived; generally opening in the morning, and drooping before four o'clock in the day. The variety is probably the same as *Galaxia mucronularis Salisbury*, as it is of deep purplish rose-colour, with a mucro at the tip of each segment of the corolla. *G. versicolor*, *Sal.*, appears only to differ in being without the mucros. They are all natives of the Cape, introduced in 1799, and require the usual treatment of Cape bulbs.

2.—GALAXIA GRANDIFLORA, *And.* THE LARGE-FLOWERED GALAXIA.ENGRAVING.—*Bot. Rep.* t. 164.

SPECIFIC CHARACTER.—Nearly stemless. Leaves glabrous, lanceolate-acuminate, arched. Spathe 1-flowered.

DESCRIPTION, &c.—Differing from the preceding species only in the leaves being neither ciliated nor plicate, but quite smooth, and in the flowers being without any greenish streaks. It was introduced in 1800. It may be here observed that ciliated signifies “like an eyelash,” and that it is applied to leaves edged at the margin with fine hairs like those of the eyelid. Any one who will take the trouble of comparing the leaves of *G. ovata* with those of *G. grandiflora*, will immediately perceive the difference.

3.—GALAXIA GRAMINEA, *Thunb.* THE GRASS-LEAVED GALAXIA.SYNONYME.—*Ixia fugacissima*, *Lin.*ENGRAVINGS.—*Bot. Mag.* *fig.* 1292.

SPECIFIC CHARACTER.—Nearly stemless. Leaves glabrous, linear, filiform, convolute, dilated at the base. Spathe 1-flowered.

DESCRIPTION, &c.—A very distinct species, with rather small yellow flowers remarkable for the length of their tubes, and with grass-like leaves. It was introduced in 1795. It does not flower till July or August; and it



may be left in the ground all the winter, if proper precautions are used to keep it dry. If taken up, it should not be till November, and it need not be replanted till April or May. All the *Galaxias* are very suitable for growing in pots, or in boxes for a window, &c., on account of their dwarf stature, and the large size and brilliant colours of their flowers.

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GENUS XIII.

LAPEYROUSIA, *Pourret*. THE PEYROUSIA.

*Lin. Syst.* TRIANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth with a slender tube, and a regular 6-parted salver-shaped limb. Stamens three, distinct. Stigmas three, slender, 2-parted, spreading.

DESCRIPTION, &c.—Very beautiful plants, natives of the Cape, which were originally considered to belong to the genus *Ixia*, but were separated by the Abbé Pourret, an eminent French botanist, and named by him in honour of Picot, Baron de la Peyrouse, author of the Natural History of the Pyrenees, &c. A similarity of name has occasioned this Baron de la Peyrouse to be confounded with the Comte de la Peyrouse, the celebrated and unfortunate French circumnavigator; but they were not only different persons, but of different families; and the one is supposed to have perished about fifty years ago, while the other is yet living. The flowers are very handsome, but not so large and showy as those of bulbs in general. Indeed, when seen growing in the open garden, few persons would suppose them to be those of bulbous plants. Plants of this genus will be frequently found described in botanical works under the name of *Peyrousia*, to distinguish them from the *Lapeyrousia* of Thunberg, which is a genus of *Compositæ*, and was named in honour of the celebrated circumnavigator. Professor De Candolle has, however, decided that the composite plants shall be called *Peyrousia*, and the bulbs retain their old name of *Lapeyrousia*; under which, accordingly, they are here described.

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1.—LAPEYROUSIA CORYMBOSA, *Ker*. THE CORYMB-FLOWERED LAPEYROUSIA.

SYNONYMES.—*Ixia corymbosa*, *Lin.*; *I. crispifolia*, *And*; *Caryophyllus monomotapensis*, *Pluk.*

ENGRAVINGS.—*Bot. Mag.* t. 595; *Bot. Rep.* t. 35; and our *fig.* 4, in Plate 6.

SPECIFIC CHARACTER.—Stem two-edged, branched. Branches corymbose. Segments of the limb oblong, bluntish.

DESCRIPTION, &c.—A very beautiful plant, with dark blue or purple flowers, which are produced in May, and have a good effect from their abundance, but which have no fragrance. There is a variety with white flowers. The species is a native of the Cape, introduced in 1791; and it requires the usual treatment of Cape bulbs. It flowers in May, and should be planted in February or March.

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2.—LAPEYROUSIA FISSIFOLIA, *Ker*. THE LEAFY-SPIKED LAPEYROUSIA.

SYNONYME.—*Gladiolus fissifolius*, *Jacq.*

ENGRAVINGS.—*Bot. Mag.* t. 1246; and our *fig.* 3, in Plate 6.

SPECIFIC CHARACTER.—Stem simple, spiked. Leaves lined, upper

ones shortest, cleft at the point, striated. Corollas with a long filiform tube; segments of limb obovate, mucronate.

DESCRIPTION, &c.—The leaves are thick and leathery, and the flowers, which are pink, have very long tubes, and rise out of a leafy spike. The bulb is very small, not larger than a marrowfat-pea, and the whole

plant is not above six inches high, though the tube of the flower is often an inch and a half long. The flowers are fragrant and very brittle, and they produce a very good effect in pots or boxes, as well as in beds in the open ground. As the flowers are not produced till July, and continue till September, the bulbs need not be planted till March or April; and as the bulbs are very small, it would be too much trouble to take them up every autumn. They are therefore generally planted in a bed raised a little in the centre, and gradually falling on each side, so that the moisture may pass off without injuring the bulbs. The soil should be as sandy and as light as possible; and the bulbs should be planted about two inches deep, and about three inches apart in rows. The effect produced by the flowers of such a bed, if the plants have been regularly watered when in a growing state, will be very beautiful. The bed must be carefully covered during winter, so as to protect it both from frost and heavy rains. Seeds ripen freely, and the plants raised from them generally flower the second year.

### 3.—LAPEYROUSIA ACULEATA, Swt. THE PRICKLY-STEMMED LAPEYROUSIA.

ENGRAVINGS.—Swt. Brit. Flow. Gard. 2nd Ser. t. 39; and our fig. 5, in Plate 6.

SYNONYME.—Peyrousia aculeata, Swt.

SPECIFIC CHARACTER.—Stem leafy, branched; branches 2-edged,

aculeately-denticulated. Radical leaves ensiform, acute, plicate; cauline ones broader, short, bluntish, with curled margins. Spathes curled. Segments of the limb of the perianth oblong.

DESCRIPTION, &c.—Chiefly distinguishable by its prickly stem, and the long segments of its flowers, which are of a pinkish colour, and marked at the base with a spot of dark red. The leaves are curiously plaited and edged with prickle-like teeth, which, however, do not prick, but when touched with the finger will be found quite soft and smooth. Their culture is the same as for the other species, taking care to protect them from snails and caterpillars, which are very fond of the succulent leaves and stems.

### 4.—LAPEYROUSIA ANCEPS, Ker. THE DOUBTFUL LAPEYROUSIA.

SYNONYMES.—Gladiolus anceps, Vahl.; G. denticulatis, Lour.; Ixia Fabricii, De la Roche; Lapeyrousia compressa, Pourret; Ixia Lapeyrousia, Gmel.; Ovreda anceps, Spreng.

ENGRAVINGS.—Swt. Brit. Flow. Gard. t. 143.

SPECIFIC CHARACTER.—Scape leafy, somewhat triquetrous, branched, the angles denticulated. Leaves ensiform, nerved, with curled margins. Spathes foliaceous, curled. Segments of the limb spatulate, concave.

DESCRIPTION, &c.—Some confusion prevails respecting this species, the *Lapeyrousia anceps* of the Botanical Register being evidently quite a different plant to that of Sweet's British Flower Garden; the latter, however, appears to be a species described under this name by Rømer and Schultes. The bulb is about the size of a marrowfat-pea, and it is covered with a hard glossy brown shell. The main stem is about six inches high, very much branched, and three-edged; the branches are nearly flat, and two-edged. All the edges of the stem and leaves are armed with short sharp teeth, like those of a coarse rasp. The flower has a long whitish tube, and salver-shaped segments of a bright purple. The species was introduced in 1825. The bulbs should be placed about two inches deep in a bed of very sandy soil, formed like a ridge, in March or April, when they will flower in July and August; or they may be grown in pots, in a mixture of loamy peat and sand, and forced so as to flower in spring. If grown in the open air, they may be left in the ground all the winter if care be taken to keep the bed dry. When it is wished to ripen seeds, the pollen from the anthers should be brushed on the stigmas, as otherwise, in this country at least, the seeds seldom prove fertile.





1. *Gelium ovale* 2. *Gelium ovale var. purpureum* 3. *Salicaria purpurea*  
 4. *Lonicera xylosteum* 5. *Lonicera axillaris* 6. *Anemone*





5.—LAPEYROUSIA BRACTEATA, *Ker.* THE BRACTEATED LAPEYROUSIA.

SYNONYMES.—*Gladiolus bracteatus*, *Vahl.*; *G. anceps*, var. *Thunb.*;  
? *Lapeyrousia anceps*, *Lin.*

ENGRAVING.—? *Bot. Reg.* t. 1903.

SPECIFIC CHARACTER.—Flowers imbricate; segments of the corolla ovate; spathe rhomboid; scape compressed. Leaves ensiform, obtuse.

DESCRIPTION, &c.—A very curious little plant, with white, very fragrant flowers, and imbricated spoon-shaped bracteas. Introduced in 1825; and requiring the same culture as *L. anceps*. It flowers in June and July, and ripens its seeds in October.

## OTHER SPECIES OF LAPEYROUSIA.

There appears to be so much confusion respecting the other species of *Lapeyrousia*, and botanists differ so much in the descriptions affixed to the names, that it would be in vain in a work like the present to attempt to clear up the difficulty. The following kinds are, however, mentioned in the botanical catalogues, and are said to have been all introduced.

L. FALCATA, *Ker.*

A species with blue flowers and scythe-shaped leaves; introduced in 1825 from the Cape, and flowering in May and June. Nearly allied to *L. corymbosa*.

L. FASCICULATA, *Ker.*; GALAXIA PLICATA, *Jacq.*; IXIA HETEROPHYLLA, *Vahl.*

This species is also nearly allied to *L. corymbosa*; but the flowers are not so level at the top, and they are white. It is also a native of the Cape, and was introduced in 1825.

L. SILENOIDES, *Ker.*

This species was introduced in 1822. Its flowers are purple, and resemble those of a *Silene* in shape.

L. FABRICII, *Ker.*

This species has very slender branches and white flowers. It was introduced in 1825.

## GENUS XIV.

ANOMATHECA, *Ker.* THE ANOMATHECA.*Lin. Syst.* TRIANDRIA MONOGYNIA.

GENERIC CHARACTER.—Spathe short, 2-valved. Corolla with a long slender tube, and a salver-shaped, somewhat irregular spreading limb. Stamens secund, with parallel anthers. Stigmas narrow, conduplicate, bipartite. Capsules papillose.

DESCRIPTION, &c.—Beautiful plants, nearly allied to *Lapeyrousia*, from which they differ principally in outer appearance in having all the flowers produced on one side of the flower-stalk; or, as botanists would express it, in the flowers being secund. There are only two species, both natives of the Cape, and they are very much alike.

The name of *Anomatheca* signifies a singular sheath, and alludes to the frosted appearance of the calyx of the seed-vessel. Both species are very common in gardens and nurseries, from their beauty, the easiness of their culture, and the rapidity with which they may be propagated by seeds.

### 1.—ANOMATHECA JUNCEA, Ait. THE REED-LIKE ANOMATHECA.

SYNONYMES. — *Lapeyrousia juncea*, Ker ; *Gladiolus junceus*, Thunb. ; *G. amabilis*, Sal. ; *G. polystachyus*, And. ; *Ixia excisa*, var. *Lin.* ; *I. spicata*, Bunn.

ENGRAVINGS.—Bot. Mag. t. 606 ; Bot. Rep. t. 66. †

SPECIFIC CHARACTER.—Limb of perianth regular, three lower segments spotted at the base.

DESCRIPTION, &c.—A very pretty plant, with pink flowers stained with a dark spot at the base, introduced in 1791. The flowers are produced in great abundance. The bulb is ovate, and of rather a large size ; the leaves issue obliquely from the earth, and spread in a horizontal direction when they are quite young, but they afterwards become more upright ; they are from four to eight in number, and are often partially deformed or curled up, and only about half the length of the stem. The stem is very slender, and often rises two feet high, giving the plant a very reed-like appearance. The flowers appear in May, and continue in blossom a long time ; they have no scent. Their seed ripens freely, and young plants raised from it flower the second year.

### 2.—ANOMATHECA CRUENTA, Lindl. THE BLOOD-STAINED ANOMATHECA.

ENGRAVINGS.—Bot. Reg. t. 1369 ; Lodd. Bot. Cab. t. 1857 ; and our *fig. 6*, in Plate 6.

SPECIFIC CHARACTER.—Limb of perianth bilabiate, one-half shorter than the tube, the lower lip spotted at the base.

DESCRIPTION, &c.—The tube of the flower is much longer than in *A. juncea*, and the spots at the base of the three lower segments are much larger and more decidedly marked. In other respects the plants are nearly alike, except that the leaves of *A. cruenta* are much larger and more perfect than those of *A. juncea*, being entirely without the curling up and the deep indentation on the side. The plant is a native of the Cape of Good Hope, and it was only introduced in 1830. It flowers freely either in the greenhouse or in the open ground ; and it should be grown in a soil composed of three-fourths of sandy peat or heath-mould, and one of loam. As the bulbs are large, they are generally taken up in winter as soon as the leaves have begun to wither ; but this is often as late as November, as the plants will continue in flower from April to the latter end of August. When the bulbs are left in the ground all winter, Paxton (an excellent authority in all matters of culture) recommends turning a pot over them filled with sawdust ; and when grown in pots, he recommends shaking all the old soil from the bulbs, and taking off the offsets, before repotting them in January or February. When planted in the open ground, the bulbs should be planted about four inches deep, and the flower-stem should be tied to a slight stake, to prevent it from being injured by the wind. The length and weakness of the flower-stems prevent the plants from having a good appearance when grown in masses ; and on this account, they should never be used to fill a symmetrical bed, but should be grown singly in the borders. Bulbs may be had at Charlwood's and in all the seed-shops, but they are rather dear ; or the plants may be raised from seed, which ripens abundantly, and the seedlings generally flower the second, and sometimes even the first year.



## GENUS XV.

BABIANA, *Ker.* THE BABIANA.*Lin. Syst.* TRIANDRIA MONOGYNIA.

GENERIC CHARACTER.—Spathe 3-valved, inner valve bipartite. Perianth with a tubular base, and a 6-parted limb. Stigmas three, recurved. Capsule roundish, torulose. Seeds numerous, succulent.

DESCRIPTION, &c.—The Babianas have solid bulbs or corms, consisting of a white floury eatable substance, which, when roasted, tastes like a sweet chesnut. These roots are eaten by the Hottentots; and the monkeys are said to be so fond of them, that the Dutch settlers at the Cape of Good Hope call them Babianer, whence the generic name of *Babiana* has been derived. Most of the species, when first discovered, were supposed to belong either to *Gladiolus* or *Ixia*; but they differ from the former in their seeds, which are round, and covered with a thick leathery skin; and from the latter in the shape of their flowers, which resemble those of the different kinds of *Gladiolus*. They have all curiously plaited leaves, which are long and sword-shaped, but broader than those of most other kinds of bulbous-rooted plants. The corms are covered with hard, brown scales, which are curiously netted on the outside, and a new one forms every year from the centre of the old one, rising above it, and drawing all the nourishment from it; while the hard dry part of the old corm, divested of its feculent matter, remains in the ground, and when examined is found to look like the stem of a *Zamia* or *Cycas*. This and similar cases have induced botanists to call corms underground stems; and it is on account of this tendency in the new corms to rise every year higher and higher above the ground, that corms ought to be planted much deeper than common bulbs. All the Babianas have handsome flowers, and most of them have hairy leaves; and the colours of their flowers are so various, and so brilliant, that a splendid flower-garden, for about two months in every year, might be formed from this genus alone. They are all natives of the arid plains near the Cape of Good Hope, where they are exposed to alternate seasons of excessive rain and excessive drought; the ground during the dry season being so loose and powdery, that the corms often lie partly bare, and exposed to the heat of the sun. It is thus evident that they should be grown in light sandy soil, and allowed a season of complete repose. All the kinds of *Babiana* are propagated by offsets, and by seeds, the plants raised from which do not flower till about the third year. When the corms are taken up in autumn, all the offsets should be removed previous to replanting them, as otherwise they will draw away the strength from the parent plant. Many of the kinds will bear a slight degree of frost without injury, but they are all easily killed by too much moisture; and when they are not in a growing state, if they are not kept perfectly dry, they will become rotten. Generally speaking, however, they are much more tender than those Cape bulbs that are found in the mountainous regions; and though they will grow and flower well in a dry warm border in the open air, they do best in pots, or in situations where they can be covered with a frame. Perhaps one of the best situations for growing the different species of *Babiana*, and other rather tender Cape bulbs, is on a raised sandy bank sloping forward, in front of a wall facing the south, with a ledge in the face of the wall about a foot above the surface of the ground, on which a slight frame of wood-work may rest, which may be covered with thatched straw, or anything that will keep out the wet, and protect the plants from frost.

1.—BABIANA RUBRO-CYANEA, *Ker.* THE RED AND BLUE BABIANA.

SYNONYME.—*Ixia rubro-cyanea*, *Linn.*; *I. villosa*, *Schnee*; *I. cyanea*, *Pers.*; *Gladiolus rubro-cyaneas*, *Vahl.*

ENGRAVINGS.—*Bot. Mag.* t. 410; and our *fig.* 5, in Plate 7.

SPECIFIC CHARACTER.—Villous. Limb of perianth spreading, with rhomboid segments. Leaves oblong, lanceolate, ensiform, plicate, shorter than the scape.

DESCRIPTION, &c.—This is a very handsome plant, independently of the flowers, which are very brilliant in their colour, and handsome in their shape. The flower-stem grows about six or eight inches high, and the leaves are broad, plaited, of a bluish-green above, and covered with a hairy down beneath. There are three or four large flowers on each flower-stalk, which, if kept in the shade, will last a long time, but if exposed to the sun will fade in a few hours. Every part of the flower is brilliant: the segments of the perianth are partly of a fine dark ultra-marine blue, and partly of a rich dazzling crimson. The anthers are yellow above and purple below; and even the stigma is divided into three segments, which are spread widely out, and edged with a fringe of strong hairs, which form a sort of eyelash. This species was first sent from the Cape to Holland, whence it was introduced into England in 1796. It is quite hardy, and may be left in the ground all the year with perfect safety, if care be taken to keep it dry. It should be planted in a warm dry border, in a light sandy soil; and if it be intended to remain all the year in the ground, it should be planted four or six inches deep. This will make it flower feebly the first year; but afterwards it will flower well for five or six years, after which period it will generally require taking up and replanting. Where trouble is not an object, the corms may be planted in February or March, when they will flower in May and June, and sometimes through the greater part of July. In autumn, when the leaves have withered, they should be taken up, and kept in a cool dry place till the following spring. They look very well in pots or boxes. Bulbs are imported every year from Holland, and may be had at all the principal seed-shops.

2.—BABIANA NANA, *Spr.* THE DWARF BABIANA.

SYNONYME.—*Gladiolus nanus*, *And.*

ENGRAVING.—*Bot. Rep.* t. 137.

SPECIFIC CHARACTER.—Pilose. Leaves lanceolate, plicate, equal

in length to the scape. Segments of perianth repand, semi-marginate. Spathe 2-valved.

DESCRIPTION, &c.—A little plant, not more than six inches high, somewhat resembling the preceding species, but quite on a miniature scale. It requires the same culture; but, on account of the smallness of the bulb, it need not be planted so deep, even when it is intended to remain in the ground all the year. It was introduced in 1807.

3.—BABIANA VILLOSA, *Ker.* THE HAIRY CRIMSON BABIANA.

SYNONYMES.—*Ixia villosa*, *Ait.*; *I. punicea*, *Jacq.*; *I. flabelliformis*, *Sal.*; *Gladiolus plicatus*, *var. purpurea*, *Thun.*

ENGRAVINGS.—*Bot. Mag.* t. 583; and our *fig.* 6, in Plate 7.

SPECIFIC CHARACTER.—Villous. Perianth regular, with oblong, mucronate segments. Leaves oblong, ensiform, plicate.

DESCRIPTION, &c.—The stem is shorter than that of *B. rubro-cyanea*, and the flowers smaller; they are, however, more numerous, and of so deep and rich a crimson as to be quite dazzling when the sun shines upon them. The segments of the corolla are purple on the outer side, and the anthers of a very dark violet. This species was introduced by Dr. Russell in 1778, and was first planted in the Kew garden. Its brilliant colours soon, however, made it a favourite, and it became in general cultivation. It may be planted in the open air, or kept in a greenhouse; but in the latter case it should be grown in a small pot, in a soil composed of very

sandy loam, mixed with a little vegetable mould. The specific name of *villosa*, hairy, is so badly applied (nearly all the species being hairy), that I have adopted the English name given to this species in the Botanical Magazine, and which alludes to the colour of the flowers.

#### 4.—BABIANA PURPUREA, Ker. THE DARK CRIMSON BABIANA.

SYNONYMES.—*B. stricta*, Ker.; *Ixia purpurea*, Jacq.; *I. villosa*, Mart.; *Gladiolus strictus*, Vahl.; *G. purpureus*, Vahl.; the Purple-flowered Babiana.

ENGRAVING.—Bot. Mag. t. 1052.

SPECIFIC CHARACTER.—Villous. Perianth spreading, with oblong acute segments. Leaves lanceolate, ensiform, shorter than the scape.

DESCRIPTION, &c.—This species is very improperly called *purpurea*, as it is a decided crimson. The flowers are smaller than those of most of the other species, and somewhat resemble those of *Anomatheca cruenta*, except that they are not all on one side. The plant is also of rather lower growth than that species. The culture is the same as that of *B. rubro-cyanea*. It was introduced in 1806.

#### 5.—BABIANA STRICTA, Ker. THE UPRIGHT BABIANA.

SYNONYMES.—*Gladiolus strictus*, Willd.; *G. plicatus*, L. *Sp. Pl.*; *G. nervosus*, Lam.; *Ixia plicata*, Amœn. Acad.; *I. villosa*, Jacq.; *I. scillaris*, Mill.

ENGRAVINGS.—Bot. Mag. t. 621; and our *fig. 4*, in Plate 7.

SPECIFIC CHARACTER.—Villous. Perianth somewhat campanulate, regular. Leaves narrow, ensiform, plicate, shorter than the scape.

DESCRIPTION, &c.—A very beautiful species with lilac and white flowers, and an upright stem; introduced in 1757. It is a compact growing plant, very well adapted for pots or boxes, as it requires to be seen near the eye to be duly estimated. Its colours are particularly bright and distinct. When plants of this species are grown in pots, they should be about a quarter filled with cinders, to ensure perfect drainage; and then filled up, not quite to the brim, with very sandy loam, mixed with a little leaf mould. They should be well and frequently watered, while they are in a growing state, generally twice a day; and when the flowers expand, they should be kept as much as possible in the shade to prolong their season of flowering. Thus treated, they will continue in flower for several weeks, but if exposed to the full heat of the sun, and the soil they grow in suffered to become dry, their flowers will often fade in a single day. Plants in flower will rarely bear exposure to the scorching rays of the sun without injury; and when they are grown in pots in a balcony where the combined influence of the sun and air is suffered to dry the outside of the pots, they are hurried to premature perfection, and undergo as rapid a decay. This is particularly observable where the flowers are of delicate colours. Watering flowers overhead, as the gardeners call it, also greatly shortens their existence, though this kind of watering is extremely beneficial to the leaves, and general health of the plants on which they grow.

#### 6.—BABIANA ANGUSTIFOLIA, G. Don. THE NARROW-LEAVED BABIANA.

SYNONYMES.—*B. stricta* var. *a*, Bot. Mag.; *Ixia villosa* var. *Jacq.*

ENGRAVINGS.—Bot. Mag. t. 637; and our *fig. 7*, in Plate 7.

SPECIFIC CHARACTER.—Villous. Perianth campanulate, with oblong, mucronate segments. Leaves narrow, ensiform, equal in length to the scape.

DESCRIPTION, &c.—A very beautiful little plant of dwarf habit of growth, very suitable for growing in pots in a balcony, or in a bed in a symmetrical flower-garden. The colour is a brilliant blue softening into pink, and with dark spots at the base of each segment of the perianth, and the flowers are slightly fragrant. The culture is the same as for *B. stricta*, of which indeed some botanists consider this a variety, and the same remarks will apply as to the best method of prolonging its flowering season. It was introduced in 1757.



## 7.—BABIANA SULPHUREA, Ker. THE SULPHUR-COLOURED BABIANA.

SYNONYMES.—*Gladiolus sulphureus*, Jacq.; *G. plicatus*, And.; *G. pygmaeus*, Burm.; *G. ringens*, Thunb.; pale-flowered Babiana.

ENGRAVINGS.—Bot. Mag. t. 1053; Bot. Rep. t. 268; and our fig. 3, in Plate 7.

SPECIFIC CHARACTER.—Villous. Perianth campanulate, with oblong-lanceolate, undulated segments. Leaves lanceolate-ensiform, plicate, about equal in length to the scape.

DESCRIPTION, &c.—A dwarf plant, with a profusion of large and handsome cream-coloured flowers, with dark blue anthers and yellow stigmas. It is perhaps the commonest of all the species, and one of the easiest to manage; as when once planted it will remain several years in the ground, without requiring to be taken up, and it is hardier than most of the other species. It was imported direct from the Cape of Good Hope by Messrs. Lee and Kennedy in 1803, and it has continued in cultivation ever since.

## 8.—BABIANA PLICATA, Ker. THE PLAITED-LEAVED BABIANA.

SYNONYMES.—*Gladiolus plicatus*, Thunb.; *G. fragrans*, Jacq.; *G. polystachys*, Redoute; *Iris africana*, Pluk.; the sweet-scented Babiana.

ENGRAVING.—Bot. Mag. t. 576.

SPECIFIC CHARACTER.—Villous. Perianth somewhat ringent, spreading, with nearly equal segments; the upper one convolute at top. Leaves oblong-lanceolate, plicate, longer than the scape.

DESCRIPTION, &c.—A pale violet-coloured flower with blue anthers and yellow stigmas. The stems and leaves are pubescent, and the whole plant seldom exceeds six inches in height. The flowers smell like the Clove Carnation. This species is a native of the low hills and sandy plains of South Africa, near Cape Town, where it was found by Thunberg in great abundance. In England it is rather tender, and should be grown in pots in a greenhouse. It flowers in May. It was introduced in 1778, and it was first grown in Kew Gardens. The specific name of *plicata* is not a good one, as all the species have plaited leaves; and sweet-scented is not much better, as they are nearly all sweet-scented.

## 9.—BABIANA DISTICHA, Ker. THE TWO-RANKED BABIANA.

SYNONYMES.—*Gladiolus plicatus*, Jacq.; the Hyacinth-scented Babiana.

ENGRAVINGS.—Bot. Mag. t. 626; Redoute Lil. 2, t. 89; and our fig. 2, in Plate 7.

SPECIFIC CHARACTER.—Villous. Perianth campanulate, rather irregular, with oblong, obtuse, undulated segments, and a filiform tube. Leaves distich, oblong-lanceolate, plicate.

DESCRIPTION, &c.—This species has the peculiarity of having the leaves shorter than the stem; they are also distinctly ciliated, and so deeply plaited as to appear furrowed. The flowers are numerous, and equally disposed on both sides of the stem; they are regularly formed, with the segments spreading and somewhat recurved, and they are exquisitely fragrant, resembling the scent of a Hyacinth, but infinitely superior to it. This species is a very popular one, as it is hardy, and not apt to rot. It will indeed withstand ordinary winters without any care, and it should not be removed oftener than once in three or four years. It is increased by offsets, which it produces in great abundance; but which generally do not flower till they are two or three years old. The flowers are produced in June. The plant was introduced in 1774.

## 10.—BABIANA SPATHACEA, Ker. THE STIFF-LEAVED BABIANA.

SYNONYME.—*Gladiolus spathaceus*, Thunb.

ENGRAVINGS.—Bot. Mag. t. 638; and our fig. 8, in Plate 7.

SPECIFIC CHARACTER.—Glabrous. Spathes imbricate. Perianth

with a long filiform tube, and irregular limb; the alternate segments mucronate. Leaves stiff, narrow-ensiform, longer than the stamens.

DESCRIPTION, &c.—A very remarkable little plant, which varies very much when raised from seed; some of the seedlings having a stem three feet high, while the greater part do not exceed three or four inches. The stem



1. *Bulbocodium bulbosum* 2. *Bulbocodium bulbosum* 3. *Bulbocodium bulbosum* 4. *Bulbocodium bulbosum*  
 5. *Bulbocodium bulbosum* 6. *Bulbocodium bulbosum* 7. *Bulbocodium bulbosum* 8. *Bulbocodium bulbosum*





and leaves are less pubescent than those of any other species of the genus; and the flowers are remarkable for the long and slender tube of the perianth, which, notwithstanding its apparent weakness, stands quite erect so long as the flower remains in perfection, but bends down when it fades. The leaves are short, rather broad, and deeply plaited; and they stand remarkably stiff and erect, whence the name of the species. It was introduced in 1801.

#### 11.—BABIANA SAMBUCINA, *Ker.* ELDER-FLOWER SCENTED BABIANA.

SYNONYME.—*Gladiolus sambucinus*, *Jacq.*

ENGRAVING.—*Bot. Mag.* t. 1019.

SPECIFIC CHARACTER.—Glabrous. Perianth campanulate, with a

long tube, and the alternate segments mucronate. Spathes imbricated, awned, villous at top. Leaves lanceolate, ensiform, plicate.

DESCRIPTION, &c.—A dwarf plant, greatly resembling *B. spathacea* in its general habit of growth, though it differs in two important particulars; these are, that the leaves are not so stiff and erect as in that species, and the flowers have not such long tubes. Their colour is a deep rich purple, and the segments of the limb of the perianth are large and spreading; they are also very fragrant. It may be observed that in speaking of most of the flowers of the *Iridaceæ* the terms segments and perianth are used instead of petals and corolla. The reason is that in all these flowers the calyx and corolla are confounded together, and there is no separate calyx; unless, indeed, the leafy spathe from which the flowers spring be so considered, as it was by some of the old botanists. Plants of this species of *Babiana* look exceedingly well in boxes under a veranda, where they can have a background of green, from their low and compact habit of growth, and the dark rich colour of their flowers. They will bear growing in rather a richer soil than the other kinds; but the manures used to enrich the soil for them should be only those of a cold nature, such as rotten cow-dung, or decayed leaves; and never stable manure, unless it be part of a very old hotbed.

#### 12.—BABIANA TUBATA, *G. Don.* THE TUBE-LIKE BABIANA.

SYNONYMES.—*Babiana tubiflora*, *β Ker.*; *Gladiolus tubiflorus*, *Lin.*; *G. tubatus*, *Jacq.*; *G. longiflorus*, *And.*; *Ixia tubulosa*, *Burm.*; *Sysyrrinchium Africanum*, *Herm.*; long-tubed *Babiana*; long-flowered *Babiana*.

ENGRAVINGS.—*Bot. Mag.* t. 680; *Bot. Rep.* t. 5; and our *fig. 1*, in Plate 7.

SPECIFIC CHARACTER.—Villous. Leaves lanceolate-ensiform, and, as well as the spathes, distich. Perianth with a very long tube, and a ringent limb. Scape shorter than the leaves. Stamens ascending.

DESCRIPTION, &c.—The corm is ovate-acuminate, and covered with several thin, dark-brown, membranous skins or tunics. The leaves are short, broad, deeply plaited, and covered with hair, except near the base, where they form a kind of petiole, and where they are quite smooth. The flower is very remarkable from the extraordinary length of the tube of the perianth, which is often more than four inches long, and quite erect as long as the flower continues expanded, but drooping when it fades. The limb of the flower is open and spreading, and it is curiously marked with dark-red blotches. Each bulb produces from five to seven flowers, which look best when the bulbs are grown in pots, as the flowers are thus brought near the eye. The extraordinary length of the tube gives them a loose and untidy appearance when grown in beds or boxes; and the beauty of their curious markings is comparatively lost when seen at a distance.

#### 13.—BABIANA TUBIFLORA, *Ker.* THE TUBE-FLOWERED BABIANA.

ENGRAVING.—*Bot. Mag.* t. 847.

SPECIFIC CHARACTER.—Villous. Leaves lanceolate-ensiform, and, as well as the spathes, distich. Perianth with a long filiform tube, and

an irregular limb. Upper segment more remote than the rest. Scape shorter than the leaves. Stamens erect.

DESCRIPTION, &c.—This species differs very little in general appearance from the preceding one, except in the tube of the flowers being larger and more slender, and the limb or open part smaller and more irregular.

The whole plant is also smaller and weaker, except the leaves, which are short and broad, and stand erect. Each plant produces, like those belonging to the last genus, from five to seven flowers; and the same remarks will apply, though in a still stronger degree, to the best situations for growing them, so as to display the flowers to advantage. In the Botanical Magazine this species is described as a variety of the last, and it is stated that there are other intermediate varieties quite as distinct as this.

#### 14.—BABIANA RINGENS, *Ker.* THE GAPING BABIANA.

SYNONYMES.—*Gladiolus ringens*, *And.*; *Antholyza ringens*, *Vahl.*  
 ENGRAVINGS.—Lodd. Bot. Cab. t. 1006.

SPECIFIC CHARACTER.—Glabrous. Perianth ringent, upper segment and stamens erect, lower ones secund. Leaves ensiform, plicate.

DESCRIPTION, &c.—A very singular plant, the upper segment of the limb of which is as disproportionately long as the tube was of the flowers belonging to the last genus. This enormous segment stands erect, with the stamens, which are proportionately long, and it seems gaping for whatever it can devour. The colour is a brilliant scarlet. This very singular plant was one of the first of the Cape bulbs received in Europe, and it was described and figured in a work published in 1701, from a plant that flowered in Holland in 1697. It was not introduced into England till the following century, as the first trace we find of it in this country is its being recorded among the plants cultivated in the Chelsea Botanic Garden by Miller in 1759. It has since been frequently lost, and reintroduced from Holland, where it ripens its seeds freely; or direct from the Cape. It flowered splendidly a few years since in the collection of Messrs. Loddiges, at Hackney, where it was grown in front of a stove, in a border of sandy peat. It is generally increased by seed, as it produces few offsets; but the seedlings vary very little from the parent.

#### OTHER SPECIES OF BABIANA.

##### *B. TENUIFLORA*, *Swt.*

This species, which has slender blue flowers, was introduced in 1825, from the Cape.

##### *B. MUCRONATA*, *Ker.*

The flowers are purple and yellow, tipped with a strong mucro, or sharp bristly point, at the end of each segment. It was introduced in 1825.

##### *B. PALLIDA*, *W. Herb.*

A hybrid with very pale delicate flowers, raised by the Honourable and Reverend W. Herbert.

##### *B. OCHROLEUCA*, *G. Don.*

The flowers are cream-coloured, and are produced in great abundance from May to August. It was introduced from the Cape in 1825.

##### *B. THUNBERGII*, *Ker.*; *ANTHOLYZA PLICATA*, *Willd.*

A splendid plant, with many spikes of purple flowers, very different in general appearance from the other kinds of *Babiana*. It is a native of the Cape, and was introduced in 1774.

##### *B. OBTUSIFOLIA*, *Ker.*; *IXIA VILLOSA*, *Jacq.*

This species is often confounded with *B. villosa*, from which it differs principally in the colour of its flowers, which are of a pale violet instead of being of a dark crimson; and in its short, obtuse leaves. It also flowers in May and June, while *B. villosa* seldom flowers before August. *B. obtusifolia* was introduced in 1825.

## GENUS XVI.

ANTHOLYZA, *Ker.* THE ANTHOLYZA.*Lin. Syst.* TRIANDRIA MONOGYNIA.

GENERIC CHARACTER.—Spathe 2-valved. Perianth tubular, ringent, recurved, with a long tube, and a 6-cleft limb, the lateral segments of the upper lip the shortest. Stamens ascending. Stigmas three, recurved. Capsule roundish. Seeds numerous, roundish.

DESCRIPTION, &c.—Very remarkable plants, which differ strikingly from the Babianas both in the form and colour of their flowers. They have all large bulbs, or rather tubers, like those of the *Ferraria*, which are flattish, but rather raised in the centre, and concave beneath. They all produce long spikes of large showy flowers, bearing from ten to forty flowers on each spike; and they are all natives of the Cape, requiring the usual treatment of Cape bulbs. As the spike of flowers grows generally three or four feet high, and the leaves are numerous and very large, these plants are only suitable for growing in borders, where they look extremely well with a background of shrubs. The name of *Antholyza* signifies a flower in a rage, and appears to have been applied from the fiery colour of the principal species. It is, however, rather a singular name for a plant producing such splendid flowers.

1.—ANTHOLYZA ÆTHIOPICA, *Ker.* THE ETHIOPIAN ANTHOLYZA.

SYNONYMS.—*A. ringens*, *And.*; *Gladiolus Æthiopicus*, *Com.*; *G. pyramidalis*, *Burm.*; *Hyacinthus Africanus*, *Pluk.*; the flag-leaved *Antholyza*; African hyacinth; pyramidal Corn-flag.

ENGRAVINGS.—*Bot. Mag.* t. 561; *Bot. Rep.* t. 32; and our *fig.* 2, in Plate 8.

SPECIFIC CHARACTER.—Leaves ensiform, striated, attenuated at both ends, oblong, mucronate, spiked disk. Upper segment of the perianth large and stretched out, the rest recurved.

DESCRIPTION, &c.—A stately plant growing four or five feet high, with a profusion of long, broad, spreading leaves, which are striped, or rather indented, but not plaited so deeply as those of the Babianas. The upper leaves are stiffer than the lower ones, and stand erect. The flowers are very large and handsome, and they are produced on both sides of the flower-spike; from ten to forty being on each spike, and ten or twelve being generally open at once. It is thus evident that this species is only suitable for situations where there is plenty of room; and also that when it has room, it is a very splendid ornament to a flower-garden. The best situation for it is a border, where its brilliant colours will be relieved by a background of grass or evergreens. It produces abundance of seeds, which generally ripen, and are of a deep yellow. The capsule, which somewhat resembles a small cherry, bursts when the seeds are ripe. The flowers appear in May or June, and continue a long time. The plant is quite hardy, and not so liable to be injured by wet as most of the Cape bulbs, but it should be taken up every second or third year, on account of the great number of offsets which it produces, and which weaken the parent bulb if not removed. The name of *Æthiopian*, which was given to this species by Cornuti, seems very inappropriate, as it is a native of the Cape; but at the early period when it was first introduced into Europe (1633), everything not European was called Indian or African; and it was perhaps from some vague notion of *Æthiopia* being in Africa that this plant received its name. It was first mentioned in English catalogues by Miller, who appears to have cultivated it in the Chelsea Botanic Garden in 1759. It has kept its place in English gardens ever since; and bulbs may now be had at all the principal seed-shops and nurseries, particularly at Forrest's nursery, Kensington, and at Charlwood's seed-shop, Covent Garden, and Carter's, Holborn. When this plant is wished to be particularly large and fine, a pit should be dug about eighteen



inches deep and a foot in diameter, at the bottom of which should be put a layer of old rotten cow-dung, and the pit should be filled up with very sandy loam ; or the pit may be made two feet deep, and have two or three layers of pebbles or broken brickbats at the bottom to ensure drainage. When thus treated, bulbs should be planted in October ; and the young plants protected during winter, or at least in very severe weather, by a hand-glass or some other covering ; as the manure, &c., will, by increasing the rapidity of their growth, render the young stalks and leaves more succulent, and consequently more easily affected by frost.

## 2.—ANTHOLYZA PRÆALTA, *Dec.* THE TALL ANTHOLYZA.

SYNONYMES.—*A. Æthiopica* var. *β*, *Ker.* ; *A. vittigera*, *Sal.* ; the lesser Scarlet Antholyza.

ENGRAVINGS.—*Bot. Mag.* t. 1172 ; *Redout. Lil.* t. 387.

SPECIFIC CHARACTER.—Leaves ensiform, striated. Upper segment of perianth very long, curved ; lower one reflexed, the two lateral segments small.

DESCRIPTION, &c.—The specific names of the plants belonging to this genus appear to have been very unhappily applied ; for this species, which Professor De Candolle calls the “tall” Antholyza, is much shorter than the preceding species, and much smaller in all its parts. The flowers are of a yellowish orange ; and instead of the long, deeply furrowed tube of the preceding species, they have a short tube, with the lower lip of the corolla very much recurved, and the upper one projecting at least twice the length of the tube, which gives the flowers even when just expanded the appearance of being half fallen, or at least curled up, and in a state of decay. The flower when it first opens is generally found filled with a limpid water, like the drops suspended under the bell of the crown imperial. This species should be planted in a very sandy border in March or April, or even May or June, as it does not flower till September or October ; and it should be taken up every year, as if suffered to remain long in the ground, it wastes its strength in the production of offsets. These are often so numerous, that when the plant is taken up, it appears as if the root had become stoloniferous like that of couch-grass, &c.

## 3.—ANTHOLYZA MONTANA, *Ker.* THE MOUNTAIN ANTHOLYZA.

SYNONYMES.—*Gladiolus montanus*, *Vahl.* ; *G. parviflorus*, *Jacq.*

ENGRAVING.—*Lodd. Bot. Cab.* t. 1022.

SPECIFIC CHARACTER.—Leaves filiform. Upper lip of corolla erect ; about equal in length to the lower lip, which is reflexed. Segments all undulated.

DESCRIPTION, &c.—A plant with narrow grass-like leaves and small flowers, the segments of which are very narrow, and so much undulated as to look withered as soon as they expand. It was introduced in 1824. The flowers are more curious than beautiful, but at a little distance they look like those of some kind of *Oncidium* or other orchidaceous plant, and thus they have a striking appearance when seen growing in the open air ; they are also delightfully fragrant. The bulb should be planted in sandy peat or heath mould in February or March, and it will flower in June.

## OTHER KINDS OF ANTHOLYZA.

A. LUCIDA, *G. Don* ; A. LUCIDOR, *Vahl* ; WATSONIA LUCENS, *Pers.*,

Has filiform leaves and purple flowers : it is said to have been introduced in 1825, but it is probably lost, as it is never seen in collections.

A. NERVOSA, *Vahl.* ; GLADIOLUS ANTHOLYZA, *Poir.*,

Has broad, sword-shaped leaves and flesh-coloured flowers, which are so disposed as to form a kind of cone. It does not appear to have been introduced.



*Chilomenium pinnatifidum* (L.) DC. *Chilomenium pinnatifidum* (L.) DC. *Chilomenium pinnatifidum* (L.) DC.





## GENUS XVII.

ANISANTHUS, *Swt.* THE ANISANTHUS.*Lin. Syst.* TRIANDRIA MONOGYNIA.

GENERIC CHARACTER.—Spathe 2-valved. Perianth tubular, | very small. Stamens ascending. Stigmas three, spreading, dilated  
 unilabiate; limb unequal, 6-parted, ringent; upper segment very | at top. Capsule oblong, triangular. Seeds numerous, winged.  
 long and spoon-shaped, lateral ones bent upwards; three lower ones

DESCRIPTION, &c.—The name "*Anisanthus*" signifies unequal flower, and it applies to the shape of the perianth, one of the segments of which projects like the beak of a bird, or a little hood, beyond the others. The bulbs, or rather corms, are small and solid, and are covered with a hard dark brown shell. This genus was separated by the late Mr. Sweet from *Antholyza*, principally on account of its flat winged seeds, while those of *Antholyza* are roundish, or somewhat angular by compression.

1.—ANISANTHUS SPLENDENS, *Sweet.* THE SPLENDID ANISANTHUS.

ENGRAVINGS.—*Swt. Brit. Flow. Gard. 2nd Ser.* t. 84; and our *fig. 1*, in Plate 8.

SPECIFIC CHARACTER.—Scape simple, erect. Leaves ensiform, acute, glabrous, nerved. Flowers distich. Spathe nearly equal.

DESCRIPTION, &c.—A very showy plant, with a spike of deep crimson flowers, a foot long. The plant grows about three feet high, so that it is only fit for a border flower; but in a border with a background of green, it has a very brilliant effect. It was introduced from the Cape of Good Hope in 1825, and in England it flowers in March and April. The bulbs should be planted in October in a compost of two-fourths of loam, one of peat, and one of fine white sand; and they should be protected during the winter by a hand-glass from excessive rain and frost, taking the glass off during the day in fine open weather. They may be left in the ground for several years without injury, if protected from rain and frost; the first being still more injurious than the latter, as it is sure either to excite the plants into premature growth, or to rot the bulbs. This species seeds freely, and it may be increased either by seeds, which will flower the second year, or by offsets from the parent bulb.

2.—ANISANTHUS CUNONIA, *Swt.* CUNO'S ANISANTHUS.

SYNONYMES.—*Antholyza Cunonia, Lin.*; *Cunonia Antholyza, Mill.*; *Gladiolus Cunonia, Ait.*; scarlet-flowered *Antholyza*.

ENGRAVING.—*Bot. Mag.* t. 343.

SPECIFIC CHARACTER.—Scape simple, flexuous. Leaves ensiform, attenuated at both ends, glabrous. Spike distich. Spathes lanceolate, unequal.

DESCRIPTION, &c.—The flowers are of a deep scarlet, with a little yellow at the base of the tube, something like those of the Indian Shot (*Canna Indica*). The plant was introduced from Holland in 1756; and it was named *Cunonia*, in honour of a Dutchman of the name of Cuno, who wrote a poem in Dutch verse in 1750, in praise of his garden at Amsterdam. This species seeds freely, and, as the seedlings flower the second year, it is easily propagated in that manner. The seeds should be sown as soon as they are ripe, which is generally about the middle of August, and kept under shelter during winter, when the largest plants will be ready for planting out in spring, and will probably flower in the course of the summer. It is also propagated by offsets. The species is rather tender, and does better in a pot in a greenhouse, where it can have plenty of air during summer than in the open ground. It is found wild in Persia, as well as near the Cape of Good Hope.

## GENUS XVIII.

PETAMENES, *Sal.* THE PETAMENES.*Lin. Syst.* TRIANDRIA MONOGYNIA.

GENERIC CHARACTER.—Spathe 1-valved, convolute, tubular at the base. Perianth tubular, with a 6-parted ringent limb; upper segment large, cucullate; the rest of the segments small, and somewhat reflexed. Stamens ascending. Stigmas three, dilated.

DESCRIPTION, &c.—There is only one species in this genus, which was separated from *Gladiolus* by Mr. Salisbury, author of several botanical works. The meaning of the generic name is not known.

1.—PETAMENES QUADRANGULARIS, *Sal.* THE QUADRANGULAR CORN-FLAG.

SYNONYMES.—*Gladiolus quadrangularis*, *Ker.*; *G. abbreviatus*, *And.*; *Antholyza quadrangularis*, *Burm.*

ENGRAVINGS.—*Bot. Mag.* t. 567; *Bot. Rep.* t. 166; and our *fig.* 3, in Plate 8.

SPECIFIC CHARACTER.—Leaves narrow, ensiform, sulcately quadrangular.

DESCRIPTION, &c.—This plant is distinguished from all the others belonging to *Iridaceæ* by its very singular flowers. The stem grows about three feet high, and the whole plant is deeply tinged with yellow and red. The flowers are of the same colour as the scape, and are only distinguished from it by being streaked with red, which the scape is not. They have no scent. The species is propagated either by seed or offsets; but it is now very seldom to be met with. The name of *quadrangularis* alludes to the leaves, which are so deeply furrowed as to present the shape of a Greek cross, when cut across. The culture is the same as that of *Antholyza Æthiopica*.

## GENUS XIX.

WATSONIA, *Ker.* THE WATSONIA.*Lin. Syst.* TRIANDRIA MONOGYNIA.

GENERIC CHARACTER.—Spathes 2-valved. Perianth with a long curved tube, which is swollen at top; and an irregular 6-parted limb. Stamens ascending. Stigmas three, bifid, recurved. Capsule oblong-trigonal. Seeds numerous, winged.

DESCRIPTION, &c.—The plants composing this genus were separated from *Gladiolus* and named *Watsonia* by Miller, in honour of his friend, Sir W. Watson. Some of them differ from most of the allied genera in having tunicated bulbs, like a hyacinth, instead of solid bulbous corms, like a crocus. The species are all hardy; but they are easily injured by wet, and are much better taken up during winter than left in the ground, unless the soil be well drained. The flowers are generally very showy, but they differ very much in shape as well as colour; some of the kinds being tube-shaped, others funnel-shaped, and others salver-shaped. Three or four of the species, *W. plantaginea* and its allies, are so different from the rest, that they will probably be formed into a different genus when botanists have time thoroughly to examine them. The kinds most nearly allied to *Gladiolus* are the handsomest, from the large size of their flowers, and the brilliancy of their colours. Nearly all the species are without scent. The *Watsonias* are propagated by offsets and seeds, both of which they produce abundantly.

1.—WATSONIA ALETROIDES, *G. Don.* THE ALETRIS-FLOWERED WATSONIA.

SYNONYMES.—*Antholyza Merianella*, *Ait.*; *A. aletroides*, *Burm.*; *A. tubulosa*, *And.*; *Gladiolus tubulosus*, *Jacq.*; *G. merianus*, *Thunb.*

ENGRAVING.—*Bot. Mag.* t. 441.

VARIETY.—*W. a. 2. variegata*, *G. Don.*; *W. aletroides*, *Ker.*;

*Bot. Mag.* t. 533; *Andrews's Bot. Rep.* t. 174; and our *fig.* 4, in Plate 9.

SPECIFIC CHARACTER.—Perianth tubular, drooping; segments of the limb erect. Leaves ensiform, marginate.

DESCRIPTION, &c.—This species rarely rises more than a foot high, and seldom bears more than six or eight flowers, which are of a deep red, and very little opened. It is a native of the Cape, and was introduced in 1754. It flowers in May and June. This species varies very much when raised from seed; the variety figured in Plate 9 is, however, the kind most commonly produced, and the flowers are not only handsomer than those of the species, but they are produced in much greater abundance, there being frequently from twenty to thirty on a spike, and the flower-stem growing two feet high. The first specimen grown in England of this variety was imported from the Cape in 1778.

2.—WATSONIA HUMILIS, *Mill.* THE DWARF WATSONIA.

SYNONYMES.—*W. laceata*, *Ker.*; *W. erubescens*, *Banks*; *Gladiolus laceatus*, *Jacq.*; the lake-coloured *Watsonia*.

ENGRAVING.—*Bot. Mag.* t. 631.

VARIETY.—*W. h. var. β* *Ker.*; *Bot. Mag.* t. 1193; and our *fig.* 3, in Plate 9.

SPECIFIC CHARACTER.—Perianth funnel-shaped, drooping, secund; segments of the limb oblong and spreading. Leaves linear, with hairy sheaths at the base.

DESCRIPTION, &c.—This is one of the smallest plants of the genus, the stem rarely exceeding six inches or eight inches high, though the flowers are very large and handsome. They are of a beautiful rose-colour, and only about four or five are produced on each flower-stem. It flowers in May. This species was introduced in 1754, when it was raised from seed brought from the Cape by a Captain Hutchinson, and given by him to Miller, then curator of the Chelsea Botanic Garden. The variety is a much finer plant than the species, and the flowers are more beautiful.

3.—WATSONIA MERIANA, *Ker.* SYBILLA MERIAN'S WATSONIA.

SYNONYMES.—*Antholyza Meriana*, *Lin.*; *Meriana rubra*, *Trew*; red-flowered *Antholyza*.

ENGRAVING.—*Bot. Mag.* t. 418.

VARIETY.—*W. m. 2. punicea*, *W. M. var. γ* *Ker.*; *Bot. Mag.* t. 1194; and our *fig.* 2, in Plate 9.

SPECIFIC CHARACTER.—Perianth funnel-shaped, recurved, drooping, segments of the limb obtuse, spreading, and equal. Leaves linear, ensiform.

DESCRIPTION, &c.—A very beautiful species, and quite worthy of the fair lady whose name it bears; Dr. Trew, of Nuremberg, having named it early in the last century in honour of Sybilla Merian, a lady celebrated both for her skill as an artist and her knowledge as a naturalist. It was introduced by seed in 1756, and it requires no other care than planting in the open border in a light sandy peat, and taking up occasionally to remove the offsets, which are produced in great abundance. The variety is still handsomer than the species.

4.—WATSONIA FULGIDA, *Sal.* THE DARK-SCARLET WATSONIA.

SYNONYMES.—*Antholyza fulgens*, *And.*; *Watsonia iridifolia*, *var. fulgens*, *Ker.*; *Gladiolus iridifolius*, *Jacq.*; *G. marginatus*, *γ* *Thunb.*

ENGRAVINGS.—*Bot. Mag.* t. 600; *Bot. Rep.* t. 192.

SPECIFIC CHARACTER.—Perianth bent, with an erect tube; segments of the limb unequal, spreading, oval, oblong, and acutish. Leaves ensiform, nerved.

DESCRIPTION, &c.—This species is perhaps the tallest and handsomest of the *Watsonias*; the stem, which is frequently above six feet high, being branched, and producing several upright spikes of flowers, each spike nearly



a foot long, and bearing from ten to twenty large bright-scarlet flowers, which are produced on both sides of the stem, but converge slightly together towards the light. The bulb is kidney-shaped, and it should be grown in a large deep pot in sandy peat, requiring no particular care, except supplying it freely and regularly with water when it is about to flower. It is necessary to grow this species in a pot, as it does not flower till September, and consequently would not have time to mature its new bulb in the open air. The pot should, however, be sunk in the border, or lawn, to allow the plant to flower in the open air; where it will produce a splendid effect, as it will continue in bloom a month or six weeks, if not destroyed by frost. The leaves are numerous and very broad and shining; they are long, and slightly attenuated at each end. It is propagated by seeds and offsets, both of which it produces in abundance, and it flowers freely. It is to be procured in all the seed-shops (at Charlwood's, Covent Garden, and at Forrest's Kensington, under the name of *Antholyza fulgens*, and of Carter, Holborn, under the name of *Watsonia fulgida*), and it is generally planted in March; by planting the bulb in January or February, however, and keeping it in a greenhouse or vinery, where the temperature is from fifty-five to sixty degrees, and not bringing the pot into the open air till May or June, its flowering season may be greatly prolonged; as it will flower in July and continue producing fresh blossoms till the beginning of October.

#### 5.—WATSONIA ROSEO-ALBA, Ker. THE ROSE-COLOURED AND WHITE WATSONIA.

SYNONYME.—*Gladiolus roseo-albus*, Jacq.

ENGRAVING.—Bot. Mag. t. 537.

VARIETY.—W. r. a. 2 variegata, Ker; Bot. Mag. t. 1193.

SPECIFIC CHARACTER.—Perianth bent, with an upright tube, and a nearly regular, spreading limb; segments lanceolate-acuminated. Flowers distich. Leaves ensiform, with thickened margins.

DESCRIPTION, &c.—The leaves of this species are rather short, narrow, and somewhat twisted at the base. The stem is slightly bent, and the flowers have very long tubes in proportion to the limb, the segments of which are narrow, and pointed something like those of the Jessamine. The colour is a pinkish-white, deepening in the tube, and at the base of the segments, into a decided pink. The flowers of the variety are pink, blotched with a deep rose-colour. There is said to be another variety, the flowers of which are purple.

#### 6.—WATSONIA BREVIFOLIA, Ker. THE SHORT-LEAVED WATSONIA.

SYNONYMES.—*Gladiolus caryophyllus*, Houtt.; *G. marginatus*, var.  $\beta$ , Thunb.; *Antholyza spicata*, Andr.

ENGRAVINGS.—Bot. Mag. t. 601; Andrews's Bot. Rep. t. 56; and our fig. 1, in Plate 9.

SPECIFIC CHARACTER.—Perianth campanulate, with a spreading limb; inner segments the broadest; tube filiform, length of spathe. Flowers secund. Leaves lanceolate, nerved, somewhat falcate, very short.

DESCRIPTION, &c.—The flowers of this species are of a bright orange, and they are always produced on one side of the spike. They have short tubes, and the segments of the limb are broad and equal. The leaves are broad and very short, and the flower-stem is often not above six inches high. The bulb should be planted in a dry sandy bank, or in a pot in sandy peat or heath mould, in October with the Hyacinths, and it will flower in May.

#### 7.—WATSONIA ROSEA, Ker. THE ROSE-COLOURED WATSONIA.

SYNONYMES.—*Gladiolus glumaceus*, Vahl.; *G. pyramidatus*, Andr.; *G. iridifolia*, var. *speciosa*, Jacq.; *G. marginatus*, var. *purpureus*, Thunb. Pyramidal *Watsonia*.

ENGRAVINGS.—Bot. Mag. t. 1072; Bot. Rep. t. 335.

SPECIFIC CHARACTER.—Perianth funnel-shaped, with a nearly regular, spreading, drooping limb, and an erect slender tube. Spathe equal in length to the tube. The flowers are paniced. Leaves lorately-lanceolate, with cartilaginous margins.

DESCRIPTION, &c.—This is one of the tallest and handsomest of all the species. The stem generally grows above four feet high, with long spikes of large and handsome rose-coloured flowers, with purple anthers. This



1. *Polianthes tuberosa* 2. *Polianthes tuberosa* 3. *Polianthes tuberosa* 4. *Polianthes tuberosa*





noble species is well adapted for growing as a border flower, with a background of evergreens, or for planting in groups on a lawn; care being taken in both cases to form a pit for it two feet deep and two feet in diameter, of very sandy loam, if the soil should not be of that character. The proportion should be two parts of sand to one of light turfy loam. When sand cannot readily be procured, peat mixed with about a third of loam or vegetable mould will do very nearly as well.

### 8.—WATSONIA STRICTIFLORA, Ker. THE UPRIGHT-FLOWERED WATSONIA.

ENGRAVING.—Bot. Mag. t. 1406.

SPECIFIC CHARACTER.—Perianth strait, with an erect, slender, striated tube, and a salver-shaped, regular, spreading limb; the three

outer segments oblong, mucronate; three inner ones broader, obovate-elliptic, and marginate at the apex. Leaves ensiform, with a strong middle nerve.

DESCRIPTION, &c.—A very remarkable species. The bulb is solid and about the size of a large nutmeg, with a thick, brown, membranous integument. The leaves are from four to six inches long, and about half an inch broad. The stem which rises above them is very slender, and bears only two flowers. The flowers have a very slender tube, and a regular, salver-shaped limb, of a cherry red colour, but marked with a dark purple star, one point of it being at the base of each segment. The anthers are of a dark purple, with yellow pollen, and the stigmas of a deep rose-colour. When the flower begins to fade, the points of its segments converge, so as to make the limb of the flower appear almost cup-shaped. It was introduced from the Cape of Good Hope, by the Hon. and Rev. William Herbert, in 1810.

### 9.—WATSONIA MARGINATA, Ker. THE EMARGINATE OR SCEPTRE-FLOWERED WATSONIA.

SYNONYMES.—*Ixia sceptrum*, Hort.; *I. marginata*, Ait.; *Gladiolus marginatus*, Thunb. Long-spiked *Watsonia*.

ENGRAVING.—Bot. Mag. t. 608.

VARIETY.—*W. m. 2 minor*, Ker., Bot. Mag. 1530; *Ixia cartilaginea*, Lam.

SPECIFIC CHARACTER.—Perianth funnel-shaped, with six teeth in the throat, and with a spreading limb, and a short, slender, erect tube. Stigmas bifid. Spike of flowers dense, compound at the base. Leaves ensiform, nerved with thickened margins.

DESCRIPTION, &c.—A very splendid, *Ixia*-looking plant, with a long spike of densely-crowded pink flowers, which are salver-shaped, with scarcely any tube, and broad equal segments to the limb. This is almost the only kind of *Watsonia* that is fragrant, and its flowers smell something like noyau. The bulb is compressed, and somewhat kidney-shaped; and the stem, which is woody at the base, is strong and erect, and about three or four feet high. The leaves are broad, strongly nerved, and somewhat shorter than the stem. This species, which is very distinct from most of the other kinds, is generally known by nurserymen and seedsmen, under the name of *Ixia sceptrum*. It is a native of the low sandy hills near the Cape of Good Hope, where it was found by Thunberg in such abundance, that he describes the hills as looking at a little distance as if covered with a rose-coloured carpet. It was introduced in 1774. It is generally grown in large and very deep pots, in sandy peat, and it flowers freely in July and August. The bulb is generally planted about Christmas, and the plant is kept in the greenhouse till it is ready to flower, when the pot may be plunged into a flower-border, or the central bed of a regular flower-garden. Owing to the number and close adherence of small spikelets, which spring from the main flower stem, and which flower later, the flower spike has the singular appearance of beginning to expand its flowers in the centre instead of at the base.

10.—WATSONIA PUNCTATA, *Ait.* DOTTED-FLOWERED WATSONIA.SYNONYME.—*Ixia punctata*, *Andr.*ENGRAVING.—*Bot. Rep.* t. 177.

SPECIFIC CHARACTER.—Perianth salver-shaped, with a spreading

limb, and very short tube; segments obovate, and dotted in lines.  
Spike three-flowered. Stem jointed. Leaves linear, and sheathing the stem.

DESCRIPTION, &c.—This species is certainly much more like an *Ixia* than a *Watsonia*. The segments of the perianth are dark purple, and marked with dotted lines, whence the name of *punctata*. The species is tender, and should be grown in a pot in a greenhouse or frame, as it will not bear the open air, except in the very middle of summer. The soil should be a light sandy peat or heath mould, and the bulb should be planted in October to flower in April or May. It is a native of the warm valleys near the Cape of Good Hope, and it was introduced in the year 1800.

11.—WATSONIA PLANTAGINEA, *Ker.* THE PLANTAIN-LIKE WATSONIA.SYNONYMES.—*Ixia plantaginea*, *Ait.*; *I. triticea*, *Burm.*; *Gladiolus alopecuroides*, *Thunb.*; *Phalangium spicatum*, *Linn.* Small-flowered *Watsonia*, Fox-tail *Watsonia*.ENGRAVING.—*Bot. Mag.* t. 553.

SPECIFIC CHARACTER.—Perianth salver-shaped, with a short, narrow tube, and a campanulate spreading limb. Spike distich, crowded. Stem 2-edged. Leaves narrow, ensiform, all erect; lower ones falcate and fistular, the rest solid.

DESCRIPTION, &c.—This species is still more unlike a *Watsonia* than the last, as the spike of flowers resembles that of a *Veronica*, and the flowers themselves are small and blue. The plant is seldom above a foot high with a flexible spike, densely clothed with flowers. There are only three short leaves, which are all slightly marked with long dots in lines, and the lower one of which is fistular, while the upper ones are solid, and deeply sheathing the stem. Among the other peculiarities of this species, is that of its frequently producing in its flower spathes, one, two, or three small oblong bulbs, instead of flowers; and that these bulbs, which fall off when ripe, like ripe seeds, will grow if planted, and produce flowers, &c., as well as those, which spring in the usual way from the collar or ring at the base of the old bulb, and are called offsets. It was found by Thunberg, growing on the margins of roads and footpaths near the Cape.

12.—WATSONIA COMPACTA, *Lodd.* THE COMPACT WATSONIA.ENGRAVING.—*Lodd. Bot. Cab.* t. 1577.

SPECIFIC CHARACTER.—Perianth salver-shaped, with a short tube,

and a spreading equal limb. Spikes densely branched at the base.  
Leaves narrow, ensiform, nerved.

DESCRIPTION, &c.—Closely resembling *Watsonia plantaginea* in its general appearance, as far as regards the shape and colour of the flowers, and the dense manner in which they clothe the flower-spike; but differing in the leaves, which are not tubular, and in the plant not having the habit of producing bulbs instead of flowers, in the flower-spathe. It flowers in June, and may be grown in the open air, in a border of sandy peat. It is figured in the Botanical Cabinet, published by Messrs. Loddiges, and appears to have been only grown in their nursery, in their bulb border, in front of one of the hothouses. Messrs. Loddiges add to their description of this plant, that "before and during the flowering season, it should be well watered." It is increased by offsets.

13.—WATSONIA SPICATA, *Ker.* THE SPIKED WATSONIA.

SYNONYMS.—*Ixia fistulosa*, *Sims*; *I. teretifolia*, *Banks*; *Gladiolus fistulosus*, *Jacq.* Hollow-leaved *Ixia*, Cylindrical-leaved *Watsonia*.

ENGRAVING.—*Bot. Mag.* t. 523.

SPECIFIC CHARACTER.—Perianth salver-shaped, with a short tube, and a spreading, equal, campanulate limb. Spike distich, densely-flowered. Leaves cylindrical, blunt, and mucronate at the apex, fistular.

DESCRIPTION, &c.—This very remarkable plant is evidently nearly allied to *Watsonia plantaginea*, already described; the flowers are white, tipped with pink, instead of being blue; they are also larger, and are disposed in a looser, better formed spike. The leaves are, however, the most remarkable, as they are cylindrical and hollow, being perfectly smooth on the outside, and tipped with a little, soft point or mucro, in the centre of the extremity of the cylinder. This species is very apt to produce small bulbs, “of the size and form of a grain of oats,” in the flower-spathes instead of flowers; sometimes only a few of these bulbs are produced, and the other part of the spike is covered with flowers; but very often there are no flowers at all, and their place throughout the whole of the flower-spathe, is supplied by miniature bulbs.

## OTHER SPECIES OF WATSONIA.

W. ANGUSTA, *Ker.*

This species has small, narrow, scarlet flowers. It was introduced in 1825.

W. IRIDIFOLIA, *Jacq.*

A tall, handsome plant, with Iris-like leaves, and flame-coloured flowers. Nearly allied to *W. fulgida*. Introduced in 1795.

W. RUBENS, *Ker.*

The flowers are red, and have red spathes. Introduced in 1825.

## GENUS XX.

GLADIOLUS, *Ker.* THE CORN-FLAG.*Lin. Syst.* TRIANDRIA MONOGYNIA.

GENERIC CHARACTER.—Spathe 2-valved. Perianth tubular at the base; limb 6-parted; segments irregular, or nearly equal. Stamens three, ascending; anthers parallel. Stigmas three, somewhat dilated, entire. Capsule membranaceous, somewhat triangular. Seeds numerous winged.

DESCRIPTION, &c.—The *Gladioli* or Corn-flags are well-known showy flowers, two species of which are natives of Europe; and the others (amounting to fifty-eight, besides varieties) are either from the Cape or hybrids. The shape of the flowers in nearly all the species is alike: the calyx and corolla are confounded together, and the perianth thus formed is tubular, and divided into six segments. In some cases these segments are nearly equal; but generally three of them are much larger than the others, and elevated, so as to form a distinct upper lip. The three upper segments of the perianth are generally connivent, that is, growing so closely together as to form a sort of hood; and the three lower segments are generally loose and spreading. The three stamens are upright, terminating in upright anthers; and the three stigmas are hollow, and somewhat grooved.



The seed-vessel or capsule is ovate-oblong, and somewhat three-sided; and the seeds are very numerous, and winged, or furnished with a feathery substance like those of some of the *Compositæ*. These are the characters of Mr. Bellenden Ker's genus *Gladiolus*; but the genus *Gladiolus* of Linnæus embraced a much wider range, and took in the modern genera *Anomatheca*, *Tritonia*, *Babiana*, and *Watsonia*, besides several kinds of *Ixia*. The genus was formerly principally characterised by its sword-shaped leaves, which gave rise to the name of *Ensata*, by which Jussieu distinguished the Corn-flag tribe. *Gladiolus* also signifies a sword; and it appears to have applied to the original genus since the time of Dioscorides; at present it is not so appropriate, as the sword-shaped leaves are common to many genera.

Most of the species contained in the modern genus *Gladiolus*, being natives of the Cape of Good Hope, require alternate seasons of drought and moisture, or, in other words, of complete rest and excitement. They should consequently be grown in dry sandy soil, in a warm situation (as for example, on a sloping bank in front of a south wall), and either taken up in winter, or sheltered from the heavy rains that generally fall at that season. All the Cape bulbs are more injured by excessive moisture during the dormant season, than even by frost; provided they were quite dry when the frost set in. The reason for this is, that the bulbs in their native country are only accustomed to moisture in their growing season; and thus when the ground around them is saturated with rain they are stimulated into premature activity, as they seem to suppose their growing season has arrived. This unnatural growth, at a season when the nourishment of the plant is not matured, of course exhausts it, and it falls a prey to the first disease that attacks it. The common and Turkish *Gladioli*, on the contrary, may remain in the ground all the year without injury, and the common *Gladiolus* is so hardy, and increases so rapidly by its numerous offsets, that in the course of a few years it becomes as troublesome as a weed. All the kinds are very free flowerers; and most of them are remarkably handsome, either for growing as border-flowers, or in groups on a lawn.

#### 1.—GLADIOLUS COCHLEATUS, Swt. THE SPOON-TIPPED GLADIOLUS.

ENGRAVING.—Brit. Flow. Gard. 2nd Ser. t. 140.

SPECIFIC CHARACTER.—Leaves narrow, almost linear, 2-nerved, stiff, upright, and glaucous, attenuated at the apex; the margin and the central nerve are very prominent. Scape simple, slender, and

elongated. Segments of the perianth elliptic-ovate, somewhat obtuse, and spreading; lower segments concave and spoon-shaped; tube much shorter than the spathe.

DESCRIPTION, &c.—A curious plant, with a very slender stem, sometimes nearly two feet long. The leaves are very narrow, straight, and rigid, tapering to a sharp point. The central nerve is very prominent on both sides; thus approaching the leaf of *Pentamenes quadrangularis*. The spathe is two-valved, and both the valves are much longer than the tube of the perianth; they are broadly lanceolate before the flower expands; but they afterwards roll inwards, and appear very narrow. The flower is white; the three upper segments are about half the size of the lower ones, and more erect; they are stained with a red feathery mark, somewhat compass-shaped; the lower segments are white, and the central one spoon-shaped. The stamens are short, and the anthers very long and upright, with straw-coloured pollen. The style is white, and the stigma three-cleft, with the segments very slender at the base, but dilated at the ends. The plant has a very singular appearance, from the very slender, stiff, upright leaves, which surround the flower, and the curved spoon-shaped lower lip. A native of the Cape; introduced in 1809. It requires to be kept in a greenhouse, as it flowers in February and March.



1. *Lilium auratum* 2. *Lilium variegatum* 3. *Lilium reginae* 4. *Lilium longifolium*

— 1845 —





2.—GLADIOLUS VERSICOLOR, *Andr.* THE CHANGEABLE GLADIOLUS.ENGRAVING.—Bot. Reg. t. 19 ; Bot. Mag. t. 1042, *a*.

SPECIFIC CHARACTER.—Perianth campanulate, with a short, rather

round tube, with nearly equal, ovate segments. Leaves linear, cuneiform, three-ribbed.

DESCRIPTION, &c.—A handsome plant, the flowers of which somewhat resemble in colour those of the parrot-cornflag, though they are very different in shape, the segments of the perianth being long and tapering, undulated at the margin, and somewhat recurved. This species was introduced in 1794, and it flowers in May and June. It is very fragrant in an evening, and each flower-stem generally produces four flowers. The name of *versicolor* appears to allude to a slight change visible in the colour of the flowers about sunset, when they take a curiously shifting hue, like that perceivable in shot silk when held up to the light. This peculiarity makes the plants of this and the following species extremely well adapted for planting in boxes under a veranda, or in any situation where they are likely to be seen with the setting sun shining on them.

3.—GLADIOLUS LÆVIS, *Ker.* THE SMOOTH GLADIOLUS.SYNONYME.—*G. versicolor*, var. *binervis*, *Ker.*ENGRAVING.—Bot. Mag. t. 1042, *e*.

SPECIFIC CHARACTER.—Perianth drooping, secund ; spathe longer than the tube. Leaves two-nerved.

DESCRIPTION, &c.—Closely resembling the preceding species, but with the points of the segments of the perianth less undulated, and consequently less like those of a *Ferraria*. The colours are also very variable, and appear to change in the setting sun ; but as blue predominates instead of red, the general effect is that of coldness instead of the rich glow displayed by the hues of *G. versicolor*. *G. lævis* is a native of the Cape of Good Hope, and it was introduced in 1806. The culture is the same as for the other species.

4.—GLADIOLUS SUAVEOLENS, *Ait.* THE FRAGRANT GLADIOLUS.SYNONYMES.—*G. versicolor*, var. *tenuior*, *Sims* ; *G. versicolor*, *Hort.*ENGRAVINGS.—Bot. Mag. t. 556 ; and our *fig. 2*, in Plate 10, under the name of *G. versicolor*.

SPECIFIC CHARACTER.—Perianth campanulate, with a short rather

curved tube, and a deep nearly equal limb ; upper segments of limb elliptic, bluntish, emarginate, convolute, and undulated at the apex ; lateral ones narrower. Leaves three-nerved, striated, shorter than the sheath.

DESCRIPTION, &c.—The flowers are of a pale yellow or straw colour, dotted in the upper part with red spots. The leaves are ribbed, but not quadrangular, like those of some of the species. The species is a native of the Cape, and it was introduced in 1799. It may be grown either in pots, or in the open air ; but in the latter case it will require protection during winter. It is most suitable for pots, as its curious markings are scarcely seen when it is grown far from the eye.

5.—GLADIOLUS RECURVUS, *Ker.* THE RECURVED, OR VIOLET-SCENTED CORNFLAG.SYNONYMES.—*G. carinatus*, *Ait.* ; *G. punctatus*, *Jacq.* ; *G. tristis*, var. *punctatus*, *Thunb.* ; *G. alatus*, *Schneev.* ; *G. odoratus*, *Sal.* ; *G. ringens*, *And.*ENGRAVINGS.—Bot. Mag. t. 578 ; Bot. Rep. t. 27 ; and our *fig. 1*, in Plate 10.

SPECIFIC CHARACTER.—Perianth campanulately ringent, and compressed at the sides ; outer segments lanceolate and recurved ; inner ones somewhat wedge-shaped at the base. Leaves linear, smooth, except the midrib, which is prominent.

DESCRIPTION, &c.—This species is easily distinguished not only by its colour, which is a beautiful violet tinged with yellow, and its scent, which resembles that of the violet, or rather of the orris-root, but by the sheath,

which rises from the bulb, and envelops the base of the stem. This sheath is white, mottled with a purplish-brown, and it is as glossy as the finest porcelain, which indeed it greatly resembles. Each bulb sends up three leaves, and a stem about two feet high, with a flower-spike of from two to five flowers. The stem is never branched, though it is so represented in Miller's figure, probably through a mistake of the draughtsman. When the flowers first expand they will be found, if closely examined, to be yellow, so closely dotted over with very small violet-blue spots as to look quite blue at a distance; and in this state the flowers are very beautiful. In the course of two or three days, however, the dots disappear, the whole flower becomes of a pale and somewhat dull violet-blue. The stigmas, which are green, are larger than the anthers, and gracefully curved. This species was first grown in England in 1760 by Miller, who raised it from Cape seeds. In 1774 it was reintroduced into Kew Gardens by Mr. Masson, who gave it the name of *carinata*, or keeled, from the projecting midrib of the leaf. When it flowered, it was, however, immediately recognised to be the same plant as that of Miller. Thunberg describes a variety with the same fragrance, &c., but with flesh-coloured flowers. It is, like many of the other Cape Iridaceæ, quite able to resist the cold of an English winter—at least all the cold that it is likely to meet with in the neighbourhood of London; but it must be kept dry, or at any rate so placed that no stagnant water may remain round the corm. It does not, however, bear taking up in autumn and replanting in spring, as it flowers in April; and unless it be planted in September or October the plant has not time to develop its growth. It succeeds very well grown in pots, as its roots do not require much room; and though the stem is more dwarf, it looks better on that account, as the scantiness of its flowers is thus rendered less conspicuous. In other respects its culture is the same as that of the preceding species; but it has the advantage, when raised from seed, of coming into flower much earlier, and of never failing to produce flowers every season.

#### 6.—GLADIOLUS GRACILIS, Ker. THE SLENDER GLADIOLUS.

SYNONYME.—*G. punctatus*, var. *Soland.*

ENGRAVING.—Bot. Mag. t. 562.

SPECIFIC CHARACTER.—Perianth ringent, with lanceolate obtuse

segments, tube equal in length to the spathe. Leaves linear, the marginal ribs projecting, and the midrib depressed. Scape flexuous, kneed.

DESCRIPTION, &c.—This is one of the least ornamental of all the kinds of Gladiolus, from the great length and slenderness of the stem, its narrow leaves, and few flowers. The bulb is very small, and the stem rises without any branches two or three feet high, with only three or four very short linear leaves. There are seldom more than three flowers, which are of a pale lilac, and have their lower segments spotted with black. They are without fragrance. This species is quite hardy; and in any common garden soil it may be left in the ground all the winter without any protection. It will, however, be advisable to plant it tolerably deep (say four inches, or six inches), as it has a tendency to rise out of the ground like the Crocus.

#### 7.—GLADIOLUS CARNEUS, Jacq. THE FLESH-COLOURED GLADIOLUS.

SYNONYME.—*G. cuspidatus*, *Andr.*

ENGRAVINGS.—Bot. Mag. t. 591; Bot. Rep. t. 147; and our *fig.* 3, in Plate 10.

SPECIFIC CHARACTER.—Perianth subringent, with nearly equal seg-

ments and a somewhat incurved tube; the upper segment the broadest, convolute and somewhat recurved at the apex, the lower ones narrower and dependent. Leaves ensiform, striated, glabrous, marginate. Scape flexuous. Flowers drooping.

DESCRIPTION, &c.—A very handsome plant growing two or three feet high, with broad sword-shaped leaves, edged with a narrow white cartilaginous margin. The flowers are very large, with a long tube, and rather

narrow-pointed segments; the lower three having a brilliant carmine diamond-shaped spot in the centre of each. The spathes are broadly inflated, and the flower-spike is decidedly distich; that is, the flowers are nearly equally disposed on both sides. The flowers have no scent; but from their large size, and beautiful colour, and from the great abundance in which they are produced, the plant is very ornamental. It is, however, too large for growing in pots or boxes, and looks best planted out on a lawn in a prepared pit, as will be directed for *Gladiolus pudibundus*. It is a native of the country near the Cape of Good Hope; and it was introduced in 1796. It flowers in May and June.

### 8.—GLADIOLUS CUSPIDATUS, Jacq. THE SHARP-POINTED GLADIOLUS.

SYNONYMES.—*G. undulatus*, Lin.; *G. tristis*, var. *hastatus*, Thunb.; Tall cornflag.

ENGRAVINGS.—Bot. Mag. t. 582; Bot. Rep. t. 219; and our fig. 4, in Plate 10.

SPECIFIC CHARACTER.—Perianth erect, funnel-shaped. Segments of the limb undulated, obtuse, upper lateral ones ovate oblong, uppermost one larger, lower ones much smaller, equal and somewhat recurved. Leaves ensiform, striated, shorter than the stem.

DESCRIPTION, &c.—This is one of the most remarkable species of the genus, from the great length and undulation of the segments of the perianth. The flowers, which are produced in May and June, are cream-coloured, but the lower segments are marked with a very rich and most remarkable stain, which looks like a spot of gold worked on dark purple velvet. This mark is much larger and more brilliant in some flowers than in others—in some indeed it is scarcely visible. This plant is a native of the plains near the Cape of Good Hope, and it was introduced in 1795, that great year for the introduction of Cape bulbs into England. In that year the Cape of Good Hope was ceded to the English; and English botanists, who had been before compelled to obtain the Cape plants by a circuitous route through Holland, were now enabled to procure them direct from Africa. This circumstance appears to have given a great impulse to the culture of Cape plants, and particularly of Cape bulbs; for we find the Botanical Magazine for 1796, and the ten subsequent volumes, almost filled with these beautiful flowers. Want of care in their culture, or rather a want of knowledge of the general principles of physiology on which that culture ought to be directed, appears to have caused them to be comparatively neglected; but they are so beautiful, and so easily managed, when the general principles of their culture are understood, that it appears only necessary to call attention to them to have them become general favourites.

### 9.—GLADIOLUS PUDIBUNDUS, Swt. THE BLUSH-FLOWERED GLADIOLUS.

ENGRAVINGS.—Swt. Brit. Flow. Gard. 2nd Series, t. 140; Paxton's Mag. of Bot. vol. 2, p. 197; and our fig. 1, in Plate 11.

SPECIFIC CHARACTER.—Flowers somewhat inverted; tube of the

perianth shorter than the scape; segments ovate-lanceolate, obtuse, undulated at the margin, recurvedly spreading.

DESCRIPTION, &c.—This very showy plant is a hybrid, raised by the Hon. and Rev. W. Herbert, between *G. cardinalis*, and *G. blandus*. The stem is straight, cylindrical, and smooth; and it grows between two feet and three feet high. The leaves are broad, deeply ribbed, and sword-shaped. The flowers are large, of a deep rose-colour, and very handsome; and they are well and regularly disposed on each side of the spike. The spike is somewhat twisted, so as to give the flowers, which are ten in number, a spreading character. Both the style and stigmas are gently curved, and of a delicate white; and the anthers are large, and of a rich, dark purple. The bulbs of this species flower best when they are planted in pits prepared for them in the following manner. Each pit should be about two feet deep, and two feet in diameter, and two or three layers of broken brickbats, potsherds, pebbles, &c., should be laid at the bottom, so as to fill the pit to the depth of about six inches. The



pit should then be filled up with a mixture of two-fourths sand, one of loam, and one of decayed leaves or peat, and the bulbs should be planted two or three inches deep. The pit should be covered with a handglass, over which in severe frost, or excessive rain, a mat may be spread; but this should be taken off when not absolutely necessary, and the glass itself should be raised in the middle of the day, whenever the weather is fine and open. Thus treated, the plants will flower magnificently. In September or October, according to the season—that is in September if the summer has been warm and dry, and in October if it has been cool and moist—the bulbs may be taken up, if their offsets are to be removed. The bulbs may be replanted in other pits filled with fresh soil; or they may be put into pots to flower the following year; a compost of equal parts of very sandy loam and peat being used for filling the pots. The plants may then be kept in the greenhouse, or a frame, during the winter, and the pots plunged into the open border in spring. This last mode is by far the most economical, as the expense of making and filling the pits is considerable, and the gladioli, if taken up, should not be replanted in the same soil. It also prevents the untidy appearance presented by the leaves after the plant has done flowering; as the pot can be taken out of the border, and carried to some reserve ground to mature its leaves, while its place can be filled up by annuals, brought forward for that purpose, by sowing them, and keeping them in pots, till they are ready for transplanting. This plan answers very well, as most of the Gladioli flower in May; and the spring-sown annuals may safely be kept in their pots till June. It must be observed, however, that the Gladioli never produce either such brilliant flowers, or such tall and vigorous stems in pots, as they do when planted in the open ground.

#### 10.—GLADIOLUS MORTONIANUS, *W. Herb.* MR. MORTON'S GLADIOLUS.

ENGRAVINGS.—Bot. Mag. t. 3680; and our *fig.* 4, in Plate 11.

SPECIFIC CHARACTER.—Leaves numerous, broad, acuminate, and strongly nerved; slightly twisted towards the apex. Flowers nume-

rous; tube of the perianth nearly equal to the scape. Segments reflexed, spreading with undulated margins.

DESCRIPTION, &c.—A handsome species with numerous pale pink flowers, and broad yellowish green leaves. It is a native of the east coast of Southern Africa, from which it was sent to England in 1837, by Mr. Morton, after whom it has been named. Its culture is the same as that of *G. natalensis*.

#### 11.—GLADIOLUS DEBILIS, *W. Herb.* THE WEAK CORNFLAG.

ENGRAVING.—Bot. Mag. t. 2585.

SPECIFIC CHARACTER.—Leaves linear, smooth. Segments of the perianth all spreading open, oval, and pointed.

DESCRIPTION, &c.—The flowers are solitary, and they are very different from those of most of the other kinds of Gladiolus, as all the segments of the perianth are spread open like those of the *Ixias*; and the two inner segments are marked with a rich dark rose-coloured spot near the base. The other parts of the flower are white. The leaves and stem are both very long and slender, and very weak. It is a native of the Cape, whence it was introduced in 1822. It should be grown in a pot in a greenhouse, where it will flower in May.

#### 12.—GLADIOLUS ANGUSTUS, *Sims.* THE NARROW-LEAVED GLADIOLUS.

SYNONYMS.—*G. africanus*, *Boer.*; *G. tristis*, *var. cordatus*, *Thun.*

ENGRAVING.—Bot. Mag. t. 602.

SPECIFIC CHARACTER.—Perianth with an elongated nearly straight

tube, and a dilated funnel-shaped limb much longer than the spathe. Segments ovate, flat; lower ones ovate-lanceolate. Leaves linear. Flowers secund.

DESCRIPTION, &c.—The leaves are very narrow, and grass-like; they have a prominent midrib, and are shorter than the stem. The stem grows about two feet high, and is slightly bending. The flowers are rather



*Lilium longifolium* (L.) Miller. — *Lilium longifolium* (L.) Miller. — *Lilium longifolium* (L.) Miller. — *Lilium longifolium* (L.) Miller. — *Lilium longifolium* (L.) Miller.





small, and secund. They have no scent, and are not very handsome. The tube is rather long and very slender, and the segments are flat and spreading. The general colour of the flower is a dingy white; but the lower segments are stained with a heart-shaped mark of red. It is one of the oldest Cape species in Europe; as it was in cultivation by Miller in 1757. It is easily propagated by seeds or offsets; but it is hardly worth growing, as it is not a free flowerer, and its flowers have but little beauty even when they do appear.

### 13.—GLADIOLUS VOMERCULUS, *Jacq.* THE SPADE GLADIOLUS.

SYNONYMES.—*G. hastatus*, *Vahl.*; *G. tristis*, *var. hastatus*, *Thunb.*

ENGRAVING.—*Bot. Mag.* t. 1564.

SPECIFIC CHARACTER.—Perianth funnel-shaped, ringent. Segments unequal. Leaves linear, striated.

DESCRIPTION, &c.—The very odd name of Spade Gladiolus, seems to have been given to this species on account of a peculiar mark on the lower segments of the perianth, which resembles in form the spade on playing-cards, but the colour of which is yellow edged with blue. The specific names have nearly the same meaning; as vomerculus signifies the coulter of a ploughshare; and hastatus, a spearhead or halbert. The general colour of the flower is of a bluish white. The leaves are narrow, and deeply furrowed, and a curiously marked sheath, which enfolds them towards the base, is mottled and shining. The flowers are produced in April and May. The species is a native of the country near the Cape of Good Hope, and it was introduced in 1816. The culture is the same as for the other species.

### 14.—GLADIOLUS EDULIS, *Burchell.* THE EATABLE GLADIOLUS.

ENGRAVING.—*Bot. Reg.* t. 169.

SPECIFIC CHARACTER.—Perianth with long-tailed segments. Leaves very long, linear, glaucous, with a prominent nerve on both sides.

DESCRIPTION, &c.—This very remarkable species was found by Mr. Burchell, the South African traveller, near Litakoon or Lattakoo, near the centre of the peninsula, about S. Long 28°, and E. Lat. 24°. The part where it was found is one of the farthest points inland to which Europeans have as yet penetrated. The flower is of no beauty, being white, slightly stained with pink and yellow, and the segments being linear, and so very much curled that they look withered as soon as they expand. The leaves are very long and threadlike; and the corm is oblong, somewhat resembling in shape a clove of garlick. It is firm, and white, and is eaten by the natives. When roasted, its taste greatly resembles that of a roasted chesnut. The plant is tender, and it requires to be grown in a pot, and kept all the year in the greenhouse.

### 15.—GLADIOLUS UNDULATUS, *Ker.* THE WAVY GLADIOLUS.

ENGRAVING.—*Bot. Mag.* t. 647.

SPECIFIC CHARACTER.—Perianth erect, funnel-shaped, with undulated obtuse segments, upper ones ovate oblong; uppermost one the

largest, lower ones much smaller, equal, somewhat recurved. Leaves ensiform.

DESCRIPTION, &c.—The flowers are decidedly secund; that is, they all grow on the same side of the flower-spike, like those of the common cornflag. Those of the present species are of a pale yellow, with a broad red stripe down the centre of each segment. The leaves are broad, and sword-shaped, and the stem grows about two feet high. A native of the Cape; introduced in 1760, and requiring the same culture as the other species. It flowers in May and June.

16.—GLADIOLUS FASCIATUS, *Sal.* THE SWATHED GLADIOLUS.

SYNONYMES.—*G. undulatus*, *var. Ker.* ; *G. angustus*, *Thunb.* ;  
*G. undulatus*, *Jacq.* ; *G. striatus*, *Andr.*

ENGRAVINGS.—*Bot. Mag.* t. 538 ; *Bot. Rep.* t. 91.

SPECIFIC CHARACTER.—Segments of perianth unequal, reflexed,  
 curled. Leaves ensiform, much shorter than the scape.

DESCRIPTION, &c.—A very pretty dwarf species, the stem seldom growing above six or eight inches high, and never exceeding a foot. The flowers have no scent, but they are of a delicate pink, the segments having waved margins, and the three lower ones having a dark crimson streak down each. The calyx is inflated, and the bud, when bursting forth with its crimped segments, looks something like a baby in swaddling-clothes, whence probably the odd specific name. The stem is generally branched ; and if potted first in a very small pot and afterwards shifted two or three times into others, getting gradually larger, without breaking the ball of earth, the plant will form a compact little bush, covered with flowers, and will be very suitable for standing in a wire frame or window.

17.—GLADIOLUS BLANDUS, *Ker.* THE FAIR GLADIOLUS.

ENGRAVING.—*Bot. Mag.* t. 625.

SPECIFIC CHARACTER.—Perianth campanulate, subringent ; upper  
 segment concave ; three lower ones narrower ; tube shorter than the

spathe. Leaves linear, having the middle nerve prominent on both  
 sides, shorter than the scape.

DESCRIPTION, &c.—Closely allied to *G. carneus*, but with white flowers, the three lower segments of which are stained each with two little oval spots of red. The style and stamens are white, but the anthers are of a very dark blue, or rather purple. The spathe is not inflated, and the leaf is short though very broad. The flowers have no fragrance, but the plant is very handsome, as the flower-stem grows above two feet high, and produces from eight to ten flowers, which are ranked alternately on each side. The species flowers in June. It is a native of the Cape, and it was introduced in 1774.

18.—GLADIOLUS ALBIDUS, *Willd.* THE WHITE GLADIOLUS.

SYNONYME.—*G. blandus*, *var. Ker.*

ENGRAVINGS.—*Bot. Mag.* t. 648 ; *Bot. Rep.* t. 99 ; and our *fig. 2*,  
 in Plate 11.

SPECIFIC CHARACTER.—Perianth campanulately subringent, with a  
 short tube, and acute nearly equal segments, the three lower segments  
 conniving at top. Leaves ensiform, rather oblique.

DESCRIPTION, &c.—This species is called the White Gladiolus, because it is nearly without any stain of colour except on the back of the segments of the perianth before they expand. The spathe is somewhat inflated, and the leaf very broad and rather short. The culture is the same as of the other species. The exact time of its introduction is not known, but it is supposed to have been one of a collection of Cape bulbs introduced by Messrs. Lee and Kennedy of the Hammersmith Nursery in 1794.

19.—GLADIOLUS CAMPANULATUS, *Andr.* THE BELL-SHAPED GLADIOLUS.

SYNONYME.—*G. blandus*, *var. purpuro-albescens, Ker.*

ENGRAVINGS.—*Bot. Mag.* t. 645 ; *Bot. Rep.* t. 188.

SPECIFIC CHARACTER.—Perianth sub-campanulate, with a short rather

incurved tube, and deep, nearly equal, ovate segments. Leaves lanceo-  
 late ; scape three-flowered, longer than the leaves.

DESCRIPTION, &c.—A very handsome species, but certainly singularly ill-named, as its flowers are less campanulate or bell-shaped than those of most of the other species. The colour of the flowers is lilac, with a red stain on each of the three lower segments of the perianth. The spathe is somewhat inflated, and the leaves are

broad and much shorter than the flower-scape. Both this and the preceding species were made varieties of *G. blandus* by Mr. Bellenden Ker, &c. They certainly do seem very nearly allied to it. *G. campanulatus* was introduced in 1794, in which year a large collection of Cape bulbs was purchased by Messrs. Lee and Kennedy from Haarlem. The culture is the same as that of the other species.

## 20.—GLADIOLUS EXCELSUS, Jacq. THE TALL GLADIOLUS.

SYNONYMES.—*G. blandus*, var. *excelsus*? Ker? *G. trimaculatus*,  
*Lour.*

ENGRAVINGS.—Bot. Mag. t. 1665.

SPECIFIC CHARACTER.—Perianth campanulate; segments ovate,  
equal, spreading. Leaves ensiform, shorter than the scape.

DESCRIPTION, &c.—The tallest of all the kinds allied to *G. blandus*, as it is scarcely ever found less than three feet high. The flowers are large, of a beautiful pale pink, and each of the segments is marked at the base with a dark crimson spot, differing in this respect from all the other species of *Gladiolus*, as in general the mark or stain is only on the three lower segments. This species is remarkably handsome from its tall erect stem and its spike of eight or ten large flowers, all expanded at one time. It is well adapted for growing on a lawn, in a pit purposely prepared for it, as directed under *G. pudibundus*.

## 21.—GLADIOLUS FLORIBUNDUS, Ker. THE ABUNDANT-FLOWERING GLADIOLUS.

SYNONYMES.—*G. grandiflorus*, *Andr.*; the large-flowered cornflag.

ENGRAVINGS.—Bot. Mag. t. 610; Bot. Gard. t. 631; Bot. Rep. t.  
118; and our fig. 3, in Plate 11.

SPECIFIC CHARACTER.—Perianth erect, subringent, having the tube

the length of the sheath, and the segments of the limb rather unequal,  
flat, the upper one the largest. Leaves lanceolate, ensiform, marked  
with red.

DESCRIPTION, &c.—This is perhaps one of the commonest kinds in British gardens. The bulb or corm is larger than in most of the other kinds, being generally about the size of a pigeon's egg. The leaves are large, broad, strongly nerved, and edged with a bright pink cartilaginous margin. The stem grows about a foot high, flowering from its very base; and hence the specific name of *floribundus*. The flowers are very large, and stand erect, opening widely like little lilies. They are white, but each segment has a bright pink stripe down the centre. The style and stigmas are white, and rise above the anthers, which are dark purple. The spathe is about two inches long, and is very large and handsome. The flowers have no fragrance, but they are produced in great abundance from May till July. The bulbs, which may be bought in any seed-shop, are generally planted in February or March, and are taken up as soon as they have done flowering in autumn. Thus treated, they are quite hardy, and will grow in any soil or situation, though they prefer a deep sandy bank open to the south. They produce abundance of offsets, and also ripen plenty of seed, from which young plants may easily be raised, in the same manner as directed for other seedling bulbs. *G. floribundus* is a native of the low sandy hills near the Cape of Good Hope, and it was introduced in 1788.

## 22.—GLADIOLUS MILLERI, Ker. MILLER'S GLADIOLUS.

SYNONYMES.—*G. secundus*, var. *Banks*; *Antholyza sulcata*, *Mill.*

ENGRAVING.—Bot. Mag. t. 632.

SPECIFIC CHARACTER.—Flowers secund; perianth campanulate,

having the segments nearly equal in length, the upper side one the  
narrowest. Leaves linear, sulcate. Spathe green, striped with red.

DESCRIPTION, &c.—A very remarkable plant. The bulb is about the size of a pigeon's egg. The leaves are large, broad, and deeply furrowed. The stem is about a foot high, and generally bends to one side. The flowers



are all on the same side the stem ; they are large, and of pale yellow, with a purplish pink stripe down the centre of each segment ; they are without fragrance. The spathe is large, inflated, and of a reddish-brown on the outside. The tube of the perianth is short, rigid, and very solid and fleshy ; so much so indeed that it is quite brittle, and if touched, the upper part of the flower breaks off like a young succulent head of asparagus. The flowers are white when they first expand, with a very faint streak of pink down the centre of each segment ; but the white soon turns to yellow, and the pink deepens into a purplish crimson with exposure to the air. The plant is a native of the country near the Cape, and it was first raised in England from imported seed by Miller in 1757. It is generally grown in a greenhouse or in a frame, as it flowers in March or early in April, and consequently should be planted in autumn.

### 23.—GLADIOLUS CARDINALIS, Ker. THE SCARLET, OR SUPERB GLADIOLUS.

ENGRAVING.—Bot. Mag. t. 135.

SPECIFIC CHARACTER.—Perianth campanulate, having the tube | shorter than the spathe, and the segments of the limb lanceolate.  
Leaves ensiform, marginate. Spikes numerous, secund.

DESCRIPTION, &c.—The scarlet *Gladiolus* is too well known to require any lengthened description. It is a remarkably showy plant, and the stem, which in favourable situations will grow four feet high, generally branches out near the top into five or six branches, each bearing six or eight flowers. The flowers are secund ; they are of a bright scarlet, and each segment is marked with a white diamond-shaped spot. The bulb should be planted in March or April, or even May, as the flowers do not appear till July or August. It may be left in the ground in ordinary winters without any injury, provided the ground be tolerably dry. It is a native of the Cape, and was introduced in 1789.

The most remarkable fact about this species is that it hybridizes more freely than any other, particularly with *G. blandus*, some of the finest kinds of *Gladiolus* in British gardens having been raised in this manner. When it is wished to raise seed by hybridizing, the anthers of the plant which is to bear the seed are cut off before they burst. The anthers of the other flower are watched, and, as soon as they have burst and are covered with the floury substance called pollen, they are cut off, and received in a little tray, where they are kept till wanted. The stigma of the fruit-bearing plant is then watched, and as soon as it appears moist the pollen is applied with a fine camel-hair pencil. A thread is then tied round the spathe of the flower to indicate that the seed-pod is to be saved. The pollen will keep good for many months ; but the moisture on the stigma continues only a few days, and must be taken advantage of as soon as it appears.

### 24.—GLADIOLUS BYZANTIUM, Ker. THE BYZANTIUM, OR TURKISH GLADIOLUS.

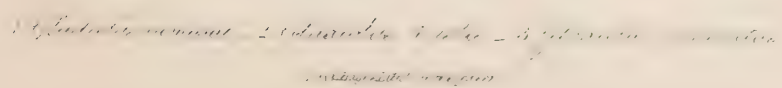
SYNONYMES.—*G. communis*, var. *Mill.* ; the great corne-flagge of Constantinople, *Park*.

ENGRAVING.—Bot. Mag. t. 374.

SPECIFIC CHARACTER.—Perianth ringent, with a thickened somewhat

incurved tube and unequal segments ; upper segment covering the lateral ones, three lower ones linear-lanceolate. Leaves ensiform. Spike distich.

DESCRIPTION, &c.—This species is quite hardy, and when once planted it may be left in the ground for years without taking up. It does not even produce many offsets, and these are so few and weak that it is many years before they become troublesome. The flowers are distich—that is, produced on both sides of the flower-stem ; their colour somewhat resembles that of the common cornflag, but the flowers are much larger, and each of the three lower segments has a yellow stripe down the centre. The style and stigma are of a dark-red, and the







anthers are yellow. The seeds seldom ripen in English gardens. The flower-stem is shorter and more rigid than that of the common kind, and the leaves, which are broad, are commonly doubled together. It flowers in June. It is a native of the country near Constantinople, whence it was imported before 1629, as Parkinson speaks of it as a well-known flower at that period. The bulb is generally planted in spring, and it will grow in any soil or situation not under the drip of trees. Like all the species, however, it prefers a sandy soil and an open situation. It is said of this *Gladiolus* that it will never flower when grown in the shade.

## 25.—GLADIOLUS COMMUNIS, *Ker.* THE COMMON CORNFLAG.

SYNONYME.—*G. Narbonensis*, *Besl.*; the French cornflag, *Park.*

ENGRAVING.—*Bot. Mag.* t. 86.

VARIETY.—*G. c. 2 carneus*, *Ker.*, *Bot. Mag.* t. 1575.

SPECIFIC CHARACTER.—Perianth ringent, with a thickened somewhat

incurved tube, and unequal segments; lower segments equal; upper ones obtuse. Leaves ensiform, nerved; flowers secund. Spathes longer than the tube of the perianth.

DESCRIPTION, &c.—The common cornflag is well known in almost every garden; but Parkinson has given so particular a description of it that I am tempted to quote a part of it, as a specimen of the style of the writer of a lady's flower-garden in the time of Charles I.; for Parkinson's work was no doubt much read by the ladies of that day, as it is dedicated to the unfortunate Queen Henrietta Maria:—"The French Corneflagge riseth up with three or foure broad, long, and stiffe, greene leaves, one as it were out of the side of another, being joyned together at the bottome, somewhat like unto the leaves of Flower-de-Luces (*Iris*), but stiffer, more full of ribbes, and larger than many of them, and sharper pointed: the stalke riseth up from among the leaves, bearing on them as it riseth, having at the toppe divers huskes, out of which come the flowers one above another, all of them turning and opening themselves one way, which are long and gaping, like unto the flowers of the Foxglove, a little arched, or bunching less in the middle, of a faire reddish-purple colour, with two little spots within the mouth thereof, one on each side, made like unto a lozenge that is square and long-pointed: after the flowers are past, come up round heads or seede-vessels, wherein is contained reddish flat seede, like unto the seede of the *Fritillaria*, but thicker and fuller. The root is somewhat great, round, and hard, with a show as if it were netted, having another short spongie one under it, which, when it hath done bearing, and the stalke dry, that the roote may be taken up, sticketh close to the bottome, but may be easily taken away, having usually a number of small rootes encreased about it, the least of which will quickly grow, so that if it be suffered any long time in a garden, it will rather choake and pester it than be an ornament unto it." The common cornflag is a native of the south of France, and indeed of the whole of the south of Europe, and it is quite hardy in British gardens. It should, however, be taken up every third or fourth autumn, as, from the immense quantity of its offsets, it will, if they are not taken away occasionally, become quite a weed; and it will rather, as Parkinson says, "choake and pester" the garden, "than be an ornament to it."

## 26.—GLADIOLUS RAMOSUS, *Paxt.* THE BRANCHING GLADIOLUS.

ENGRAVINGS.—*Paxt. Mag. of Bot.* vol. vi. p. 99; and our *fig.* 1, in Plate 12.

SPECIFIC CHARACTER.—Upper segments of the perianth broadly

oblong, obtuse; lower ones narrower, emarginate. Leaves lanceolate, acuminate, 5-nerved. Flowers distich. Spathes nearly equal to the tube of the perianth.

DESCRIPTION, &c.—It is scarcely possible for any words to give a description of this splendid flower. The flower-stem in a favourable situation grows about five feet high, throwing out numerous branches, which are thickly covered with flowers of large size, and brilliant colour, which continue expanding in succession nearly all

the summer. The leaves are proportionately large and handsome ; and the whole plant forms a most magnificent object, where there is plenty of room for it to be seen to advantage. The species was introduced from Holland about 1836 ; and it is probably a hybrid raised in that country, though it is said to be a native of the Cape. The corms should be planted in pots in October, and kept in a cold frame or greenhouse till May, when they should be planted out into pits previously prepared for their reception, as directed under *G. pudibundus*. Thus treated they will begin to flower magnificently in June, and will generally continue till August. As soon as the leaves begin to wither, the corms should be taken up, and kept dry till they are replanted in pots in October ; after which they should be kept in a frame till the following May, as before directed.

### 27.—GLADIOLUS TRISTIS, *Lin.* THE MELANCHOLY-LOOKING GLADIOLUS.

SYNONYME.—The square-leaved Corn-flag.

ENGRAVINGS.—Bot. Mag. t. 272 ; and our *fig.* 2, in Plate 12.

SPECIFIC CHARACTER.—Perianth ringent, with a simple tube, and

nearly equal segments. Leaves linear, 3-nerved, bisulcate. Spathe 3-valved.

DESCRIPTION, &c.—This was one of the first species of *Gladiolus* brought from the Cape of Good Hope to England ; as it was cultivated by Miller, and flowered in the Chelsea Botanic Garden in 1745. It was described by Linnæus, who gave it the name of *tristis* from the sombre colour of its flowers ; but the great naturalist was probably misled by judging from a dried specimen, as when the plant is well grown the flowers are cream-colour, each segment of the perianth having a green stripe up the centre, and the three upper segments having this stripe dotted with a dark purplish red ; the outside of the segments are beautifully feathered with the same colour. The leaves are quadrangular from the great projection of the midrib on both sides of them. The culture is the same as that of *G. pudibundus*.

### 28.—GLADIOLUS CONCOLOR, *Sal.* THE ONE-COLOURED GLADIOLUS.

SYNONYMS.—*G. tristis*, *var. β* ; yellow-flowered square-leaved Corn-flag.

ENGRAVINGS.—*Sal. Parad. Lond.* t. 8 ; *Bot. Mag.* t. 1098.

SPECIFIC CHARACTER.—Perianth campanulate, with one incurved tube, and flat, rather unequal segments. Leaves linear, tetragonal, 4-furrowed. Spathe 3-valved.

DESCRIPTION, &c.—A very desirable species for its colour, which is of a clear bright yellow, and the form of its flowers, which are nearly campanulate. The leaves are very curious ; the great projection of the midrib making the section appear, when cut, in the form of a Greek cross. The number of the flowers varies from two to eight, and they are all produced on the same side of the spike. In the day-time the flowers have no fragrance ; but towards evening they begin to diffuse an odour like that of the common pink. The species was introduced in 1790, and it requires the same culture as *G. pudibundus*.

### 29.—GLADIOLUS VIPERATUS, *Ker.* THE VIPER GLADIOLUS.

SYNONYMS.—*G. alatus*, *Thunb.* ; *G. orchidiflorus*, *Andr.* ; *Sisyrinchium viperatum*, *Pluk.* ; the perfumed Cornflag.

ENGRAVINGS.—*Bot. Mag.* t. 688 ; *Bot. Rep.* t. 241 ; *Brit. Flow. Gard.* t. 156 ; and our *fig.* 3, in Plate 12.

SPECIFIC CHARACTER.—Perianth ringent ; upper segment obovate, recurved ; lateral ones rhomboid-ovate, spreading ; lower ones spatulate, acuminate, dependent. Leaves ensiform, striated.

DESCRIPTION, &c.—Dr. Plukenet gave this very singular plant the name of "*Viperatus*," from the resemblance of part of its flower to the head of a viper, when raised and hissing, as if just preparing to bite. The flowers are of a greenish grey, with livid and brown stripes ; and they are extremely fragrant, resembling the

perfume which the French call Eau de miel. The species is a native of the Cape of Good Hope, whence it was first sent to England about 1794; but it was soon lost, and it was not reintroduced till 1825. It is now very rarely to be seen in collections. It must not, however, be supposed from this, that it is at all difficult to grow—on the contrary, it is one of the hardiest of the Cape Iridaceæ; but it requires a stronger soil than most of the other Cape bulbs, and from the size and sweetness of its tuberous bulb or corm, it is an object of great attraction to mice, which destroy nearly all the corms of this species that are left during the winter in the ground without protection. The flowers are, however, so much finer and the plants so much stronger when grown in the open air, that it is worth trying to avoid the danger. Perhaps the best way of doing this is to plant the corms in a compost of equal parts of sand, peat, and light loam, in very deep pots, which have been well drained with potsherds, broken very small, in October, and to keep them in a dry place under shelter till February or March, and then to turn the plants out of their pots with their balls of earth entire, into pits prepared by drainage and filled with equal parts of sand and light loam.

### 30.—GLADIOLUS ALATUS, Ker. THE WINGED GLADIOLUS.

ENGRAVINGS.—Bot. Mag. t. 586; Bot. Rep. t. 8; Swt. Brit. Flow. Gard. t. 187.

SPECIFIC CHARACTER.—Perianth ringent, with a short turbinate

tube; upper segment cuneate-lanceolate, flat, recurved lateral ones very broad ovate rhomboid; lower one spatulate rhomboid. Leaves ensiform, stiff, striated. Spathes subventricose, decurrent.

DESCRIPTION, &c.—The corm of this very singular plant is not larger than the seed of a lupine; and it is covered with a brown skin which slips off, and shows the glossy whiteness of the solid feculent matter within. The leaves are rigid, and strongly nerved and plaited; they taper at both extremities, and sheath the stem at the base. The spathe is two-valved, and the flowers, which smell like sweet-briar, are shaped a good deal like those of *G. viperatus*, but the three upper segments are of a bright orange scarlet, softening almost into white in the centre, and very strongly veined; while the three lower ones are yellowish and tipped with orange scarlet. This species was found by Thunberg near the Cape, where it appears to be very common. It was introduced in 1795, and again in 1827; but it now appears to be lost. It is very handsome and hardy; and it appears to belong to the same division as *G. viperatus*, having the same curved filaments, and like that species requiring a stronger soil than most of the other species. All the plants belonging to this division should be grown in equal parts of sand, peat, and loam.

### 31.—GLADIOLUS NAMAQUENSIS, Ker. THE NAMAQUA-LAND GLADIOLUS.

SYNONYMES.—*G. galeatus*, Andr.; *G. alatus*, var. *namaquensis*, W. Herb.

ENGRAVINGS.—Bot. Mag. t. 592; Bot. Rep. t. 122; and our fig. 1, in Plate 13.

SPECIFIC CHARACTER.—Perianth ringent, with a short turbinate

tube, the upper segment concave, the lateral ones rhomboid ovate, flat and spreading, the lower ones conniving, dependent, spatulate, obtuse, with a mucrone, with convolute claws. Leaves coriaceous, rather oblong, marginate.

DESCRIPTION, &c.—The flowers, as already observed, strongly resemble those of *G. alatus*, but the leaves are decidedly different, being short and broad, and edged with a brownish-pink, or red cartilaginous margin; they are deeply plaited, and terminate abruptly in a short point. The plant is a native of Namaqua Land, on the west-coast of South Africa, beyond the Orange River, S. lat. 28; and consequently its habitat is much nearer the equator than the Cape. Notwithstanding this, the same peculiarities are observable in its constitution as in those of its allies. It is nearly hardy, should be grown in the open ground, and requires a loamy soil. It was introduced in the year 1800.



32.—GLADIOLUS ALGOENSIS, *G. Don.* THE ALGOA-BAY GLADIOLUS.SYNONYMES.—*G. alatus* var., *Hook.*ENGRAVINGS.—Bot. Mag. t. 2608 ; and our *fig.* 4, in Plate 13.

SPECIFIC CHARACTER.—Perianth ringent, upper segments concave,

reflexed at top, upper lateral ones broad ovate, reflexed, lower ones narrow, glandular. Spatulate also reflexed. Leaves ensiform, rigid, costate. Scape winged from the decurrent sheaths.

DESCRIPTION, &c.—This species is another of the viper division of *Gladiolus* ; the flowers are of the same peculiar shape, and the stamens curled in the same singular manner. The upper segments of the perianth are strongly veined, and the three lower ones yellow tipped with the colour of the upper ones in the same way. In short, the Algoa-Bay *Gladiolus*, and that from Namaqua Land, are both so much like *G. alatus*, that it is not at all surprising that Sir W. J. Hooker should have made them varieties of that species ; and they are all evidently very closely allied to *G. viperatus*. Besides the peculiar resemblance of form in the flowers of these plants, they appear to resemble each other in constitution, as, though they are natives of different parts of South Africa, and all from places most of which from their latitude must be much warmer than the Cape of Good Hope, they are all much hardier than the majority of the Cape Iridaceæ, and all require a much stronger soil—as the compost in which they are grown should consist of loam mixed with sand, without any peat. They have all likewise very small corms, which appear to be peculiarly sweet and feculent, as they are more liable than any other kinds to be devoured by mice and snails. They all likewise never flower well, unless they have abundance of air. *G. algoensis* is a native of Algoa Bay, in nearly the same latitude as Cape Town, but on the East coast of South Africa ; and it was introduced in 1824.

33.—GLADIOLUS PSITTACINUS, *Hook.* THE PARROT GLADIOLUS.SYNONYMES.—*G. Nattalensis*, *Reinwordt* ; Splendid *Gladiolus*, Nattal Cornflag.ENGRAVINGS.—Bot. Mag. t. 3032 ; Bot. Reg. t. 1442 ; Bot. Gard. t. 536 ; Brit. Flow. Gard. 2nd Ser. t. 281 ; Floral Mag. vol. i. p. 67 ; and our *fig.* 2, in Plate 13.

SPECIFIC CHARACTER.—Perianth ringent, with elliptic abruptly acuminate segments, the three superior ones large and conniving into the form of a helmet ; throat ventricose, 6-furrowed ; inner spathe bicuspidate, longer than the tube. Leaves broad, ensiform.

DESCRIPTION, &c.—This very splendid plant was first sent to England by the Prince of Salm Dyck, one of the most liberal and generous patrons of botany of the present age, and who probably possesses the finest collection of succulents in Europe. The Parrot *Gladiolus* had been previously seen and admired by Richard Harrison, Esq., of Liverpool, in the Botanic Garden at Leyden ; but the professor of botany in that garden having unkindly refused to part with a bulb, Mr. Harrison applied, through Mr. Hitchin of Norwich, to the Prince of Salm Dyck. The species was introduced in 1829, and it flowered the following summer for the first time in England in Mr. Harrison's garden near Liverpool. It is a native of the south-east coast of Africa, near Port Natal, in S. lat. 30 ; but though found so much nearer the Equator than the Cape of Good Hope, which is on the south-west coast of Africa S. lat. 34, it is apparently nearly as hardy as the common European *Gladiolus* ; and in a dry sandy soil it may be left in the open ground all the winter without the least danger. When thus treated it forms a great number of offsets ; so many indeed, that if neglected it would probably in a few years become almost a weed. In the open ground it grows three or four feet high, and sends up four or five spikes of flowers, which are very large and of a splendid colour ; but when grown in a pot it is seldom above a foot or eighteen inches high, and very often there is only one spike of flowers to each bulb.



*1. Iris sibirica 2. Iris sibirica 3. Iris sibirica 4. Iris sibirica 5. Iris sibirica*  
*6. Iris sibirica 7. Iris sibirica 8. Iris sibirica 9. Iris sibirica 10. Iris sibirica*  
*11. Iris sibirica 12. Iris sibirica 13. Iris sibirica 14. Iris sibirica 15. Iris sibirica*





### 34.—GLADIOLUS TRICHONEMIFOLIUS, Ker. THE TRICHONEMA, OR THREAD-LEAVED GLADIOLUS.

SYNONYME.—*Ixia spathacea*, Banks.

ENGRAVINGS.—Bot. Mag. t. 1483; and our *fig. 3*, in Plate 13.

SPECIFIC CHARACTER.—Perianth funnel-shaped, subringent, tube nearly equal in length to the spathes, ventricose at top. Segments

ovate-lanceolate, convolute. Leaves slender, linear, four-sided, angles furrowed; the lower one much longer than the scape. Spike few-flowered. Flowers somewhat secund.

DESCRIPTION, &c.—The corm is small, and covered with a dark brown skin. The leaves are very long, and quite erect. The stem is much shorter than the leaves, and sheathed at the base in a dark purple membranaceous covering, rising from the bulb. The spike has seldom more than two flowers, which are very fragrant, their scent resembling that of the violet. It flowers in May. It is a native of the Cape, and was introduced about 1810. The odd name of *Trichonemifolius* alludes to its leaves resembling those of a plant to which Mr. Bellenden Ker gave the name of *trichonema*, from *thrix*, hair, and *nemos*, a filament.

### 35.—GLADIOLUS COLVILLII, Swt. MR. COLVILL'S GLADIOLUS.

ENGRAVINGS.—Brit. Flow. Gard. t. 155; and our *fig. 5*, in Plate 13.

SPECIFIC CHARACTER.—Perianth ringent, tube about equal in length to the spathes. Segments obtuse, with subconvolute margins; upper

segment the largest; lower ones the smallest. Leaves ensiform, glaucous, ribbed on both sides.

DESCRIPTION, &c.—A splendid hybrid, or rather cross-bred, raised in 1823 by Mr. Colvill from the seeds of *G. concolor*, that had been fertilized by the pollen of *G. cardinalis*. The bulb-tuber, or corm, is rather small, and the stem, which is slightly bending, grows about a foot and a half high. The leaves are numerous; they are long, rather broad, deeply furrowed, and of a glaucous green. The flowers, which have a delicious fragrance when unfolding, are very handsome. The perianth is tubular, with a six-parted spreading limb, of a brilliant scarlet, softening into purple in the margin. The spike is well filled, but the flowers are secund. This very showy species is generally grown in a pot filled with very sandy loam, and kept in a greenhouse, where it can have abundance of air. I found a great number of splendid specimens of *Gladiolus Colvillii* going into flower in the nursery of Mr. Groom, florist, Walworth, when I visited that establishment in May 1840 to see Mr. Groom's tulip-show. He had also several other kinds of the Cape *Iridaceæ*, which he grows generally in pots, kept in a very airy greenhouse, and he imports bulbs of them for sale every year from Holland. Mr. Groom is particularly attentive and obliging, and a visit to his nursery will amply repay the trouble to any amateur of flowers. Among other rare plants I was surprised to find *Phalocallis plumbago* (see p. 16), and *Rigidella flammea*; particularly the latter, which I had supposed to be only in the possession of the London Horticultural Society (see p. 27). Having mentioned this plant, it may be proper to state, that in the Botanical Register for May 1840, Dr. Lindley informs us that he finds, on minute examination, he was mistaken in supposing the perianth of the flower had only three segments, as he has since discovered the three inner segments within the cup of the flower, but so closely rolled up as to resemble anthers.

### 36.—GLADIOLUS WATSONIUS, Ker. MR. WATSON'S GLADIOLUS.

SYNONYMES.—*G. recurvus*, Houtt.; *G. præcox*, Andr.; *Antholyza revoluta*, Burm.; dwarf Cornflag.

ENGRAVINGS.—Bot. Mag. t. 450; and our *fig. 6*, in Plate 13.

VARIETY.—*G. W. 2 variegata*, Ker.; Bot. Mag. t. 569.

SPECIFIC CHARACTER.—Perianth subcampanulate, drooping, with a cylindrical tube, and lanceolate recurved nearly equal acute segments. Leaves linear ensiform, marginate, three-ribbed.

DESCRIPTION, &c.—The species grows about a foot or eighteen inches high, and has only two or three flowers, which greatly resemble those of some kinds of *Antholyza*. It has three or four leaves, which are short, and

apparently furnished with two deep grooves from the projection of the midribs and margins. The variety differs in having a larger flower, which is red, variegated with yellow, and has a long tube, and deeply reflexed segments, and in its stem being little more than half the height of that of the species. Both kinds, however, agree in their leaves, and in their flowers being devoid of scent; and both must be grown in pots as they flower in February.

### 37.—GLADIOLUS HIRSUTUS, Jacq. THE HAIRY GLADIOLUS.

SYNONYMES.—*G. hirsutus*, var. *β*, *Ker.*; *G. Merianellus*, *Thunb.*; *Antholyza Merianella*, *Lin.*; *G. roseus*, *Andr.*; the rose-coloured Cornflag.

ENGRAVINGS.—*Bot. Mag.* t. 574; *Bot. Rep.* t. 11.

SPECIFIC CHARACTER.—Perianth campanulate, regular. Leaves linear ensiform. Scape flexuous at top; leaves distich, hairy. Sheaths pilose. Spathes glabrous.

DESCRIPTION, &c.—Though *G. brevifolius* was supposed by Mr. Bellenden Ker to be a variety of this species, the two kinds are in fact very distinct. In *G. hirsutus* the flowers are large and rose-coloured; they are secund, that is, all growing on the same side of the spike; and the scapes and leaves are not only edged with a deep red margin, but they are quite hairy. The plant varies, however, very much, according to the soil and situation in which it is grown. The stem, which is generally less than a foot high, sometimes grows to the height of three or even four feet, and the flowers, which are generally of a decided rose colour, vary to purple and almost white. It should be grown in the open ground in very sandy loam, and it flowers in May. The fragrance of the flowers resembles that of the hawthorn. The exact habitat of this plant is not known, as it was introduced from Holland in 1795.

### 38.—GLADIOLUS BREVIFOLIUS, Jacq. THE SHORT-LEAVED GLADIOLUS.

SYNONYMES.—*G. hirsutus* var., *Ker.*; *G. tristis* var., *Thunb.*; *G. corneus*, *Andr.*; *G. villosiusculus*, *Banks*; the variegated shaggy Cornflag.

ENGRAVINGS.—*Bot. Mag.* t. 727; *Bot. Rep.* t. 240.

SPECIFIC CHARACTER.—Perianth subringent, having the tube equal in length to the spathe, with lanceolate segments; scape leafless, drooping at top; sterile bulb furnished only with a single leaf.

DESCRIPTION, &c.—This species is only suitable for growing in a pot in a greenhouse, as it flowers in January. The flowers, though small, are very pretty, from their rosy tint, and their delicate pencillings; but the stem being often two feet long and very slender, has an uncouth and naked appearance. It looks best when this long ugly stem is hidden by bushy plants with large leaves, and the pretty flowers peep just above them at such a height as to be just on a level with the eye.

### 39.—GLADIOLUS APHYLLUS, Jacq. THE LEAFLESS GLADIOLUS.

SYNONYME.—*G. hirsutus*, *Ker.*; shaggy Cornflag.

ENGRAVING.—*Bot. Mag.* t. 992.

SPECIFIC CHARACTER.—Perianth nearly regular; segments lanceolate-oval, unguiculate at the base. Leaves short, ensiform, rising from the bulb.

DESCRIPTION, &c.—A curious plant, which at first sight looks more like a *Linaria*, or *Toad-flax*, than a *Gladiolus*. It flowers very early in January or February, and the corm sends up a single slender stem about a foot high, with six or eight flowers, but not a single leaf, except what appears to be the rudiments of one close to the base of the stem. The flowers have no smell, but they are rather pretty, the upper segments of the perianth being slightly tinted with pink, and the lower ones being of a darker pink or rose colour, and marked with yellow.

## OTHER SPECIES OF GLADIOLUS.

The following species are all said to be in the country, and they are probably in some private collections, though I have not been able to meet with them in the collection of any nurseryman or seedsman. They are all natives of the Cape, and all require the same treatment. The hybrids, on the contrary, are common in every nursery, and the floricultural world is greatly indebted for them to the Hon. and Rev. Wm. Herbert, so well known for his admirable work on the *Amaryllidaceæ*, under whose directions they were raised.

*G. PERMEABILIS, Sal.*

The flowers are red and yellow, and they are produced in May and June. The species was introduced in 1825, and it has been described and figured by De la Roche. The specific name signifies 'passing through,' but I am not aware why it is applied to this plant.

*G. MERIANELLUS, Jacq.*

The flowers are said to be small and delicate, and yellow tinged with purple. The plant probably bears some resemblance to *Watsonia Meriana*, whence the name.

*G. PUNICEUS, Lam. ; G. VILLOSUS, Jacq. ; G. LAMARCKII, Sal.*

The flowers of this species are dark purple, and the leaves downy.

*G. BREYNIANUS, Jacq.*

This species has brown and yellow flowers. It is named in honour of a Dutch botanist (Breynius), who wrote two quarto works on exotic plants, towards the latter end of the seventeenth century.

*G. ELONGATUS, Jacq.*

The flowers are blue and yellow. The plant is named from the great length of its leaves, which appear unnaturally elongated. It was introduced in 1799.

*G. INFLATUS, Jacq.*

The flowers are pale purple, and the name alludes to the inflated appearance of the spathe. It was introduced in 1825.

*G. HYALINUS, Jacq.*

Nearly allied to *G. tristis*. The flowers are white and straw-coloured, striped with brown, and the leaves have a peculiar and half-transparent appearance. The species was introduced in 1825. *Hyalinus* signifies a glassy green.

*G. TENELLUS, Jacq.*

A very slender delicate plant with straw-colour and brown flowers.

*G. INVOLUTUS, Jacq.*

The flowers are rose-colour and purple, and the segments of the perianth are somewhat involute, or rolled up, whence the name. The species was introduced in 1757, and it flowers in May and June.

*G. TRIMACULATUS, Jacq.*

The flowers are black, coloured with three distinct dark purple spots on each of the three lower segments of the perianth. It is figured by Lamarck.



## GENUS XXI.

SPHÆROSPHORA, *Swt.* THE SPHÆROSPHORA.*Lin. Syst.* TRIANDRIA MONOGYNIA.

GENERIC CHARACTER.—Flowers secund, remote. Perianth ringent; upper segment the largest, lateral ones incumbent, the three lower ones nearly equal. Leaves ensiform, striated.

DESCRIPTION, &c.—It is rather curious that the species which Sweet has made the type of this new genus was till lately considered by botanists to be only a variety of the common cornflag. Mr. Sweet, however, though unquestionably a very clever man, and an excellent cultivator, was one of those troublesome botanists who are always in search of shades of difference, and who have contributed to disgust many persons with the study of botany by the fearful number of new species and even new genera that they have introduced. However good the motives may be which induce botanists to make these numerous alterations, there can be no doubt that every change does a serious injury in preventing the spread of a love of botany among the great mass of mankind, as uncertainty is more discouraging than any other kind of difficulty. The grounds of difference in this genus which distinguish it from *Gladiolus* consist principally in the seeds, which are round and solid instead of being flat and winged; and hence the name *Sphærosphora*, signifying spherical seeds.

1.—SPHÆROSPHORA IMBRICATA, *Swt.* THE SCALY SPHÆROSPHORA, OR ITALIAN CORNFLAG.

SYNONYMES.—*Gladiolus segetum*, *Ker.*; *G. spicatus*, *Banks*; *G. imbricatum*, *Jacq.*; *G. communis*, *Bull.*; *Ghiaggiulo*, *Ital.*

ENGRAVINGS.—*Bot. Mag.* t. 719; and our *fig.* 1, in Plate 14.

SPECIFIC CHARACTER.—Spathe 2-valved; outer valve the largest.

Perianth 6-cleft, ringent; segments unequal; tube short. Stamens three, ascending. Stigma trifid, dilated. Capsule ovate, somewhat tetragonal, many-seeded. Seeds globose, axillate, drawn out downwards.

DESCRIPTION, &c.—The flower of this plant appears intermediate between the common and Turkish cornflags. The corm is, however, smaller, and the leaves are much more slender. The flowers are nearly of the colour of those of *G. byzantius*; but they differ from that species in having the upper segment of the perianth much larger than the others; it is also elevated, and curved over the two lateral ones, and not enclosed by them as in the common cornflag. The lateral and lower segments are all nearly of the same size, except the central one of the three lower segments, which is narrower than the others. The lower segments are marked like those of *G. cardinalis*. Another peculiarity in the *Italian Cornflag* is, that the anthers are larger than the filaments of the stamens, and the style a great deal longer than the stamens altogether. The seeds are round, solid, and subbaccate. The species is a native of Barbary, but it is found wild in the south of France, and grows in great abundance all over Italy. It is quite hardy, but it does best in a dry sandy soil, and in an open situation exposed to the sun. It does not require taking up in winter, and it flowers in May and June. The bulbs are generally purchased for planting in spring.

*S. TRIPHYLLA*, *Swt.*

This species is a native of Greece, and it was introduced in 1825.







## GENUS XXII.

SYNNOTIA, *Swt.* THE SYNNOTIA.*Lin. Syst.* TRIANDRIA MONOGYNIA.

GENERIC CHARACTER. — Spathe 2-valved ; membranous, lacerated. Perianth with a long slender tube. Limb sub-bilobate, ringent. Stamens 3, ascending, inserted in the base of the limb. Stigmas 3, dilated at the apex, fringed, recurvedly-spreading. Capsule oblong-triangular. Seeds globose, naked.

DESCRIPTION, &c.—The corm of the plants of this genus looks like one of the American walnuts or hiccories. The flowers have lacerated spathes ; and the stamens are inserted in the limb of the perianth. There are only three species, all of which are natives of the Cape of Good Hope. They all require the same treatment as the other Cape Iridaceæ, that is, to be grown in dry sandy soil, and allowed a season of rest when out of flower. The name of *Synnotia* was given to this genus by Sweet, in honour of W. Synnot, Esq., a great importer and collector of Cape bulbs.

1.—SYNNOTIA VARIEGATA, *Swt.* THE VARIEGATED SYNNOTIA.

ENGRAVINGS.—*Swt. Brit. Flow. Gard.* t. 150 ; and our *fig. 2*, in Plate 14. acute ; central one elliptic, erect, two lateral ones oblong, recurved at the apex ; lower ones only cleft to the middle of the limb.

SPECIFIC CHARACTER.—Perianth ringent ; upper segments long,

DESCRIPTION, &c.—The corm is just about the size and appearance of one of the American walnuts. The shell is hard and whitish, and it is curiously reticulated. The leaves spring from the base of the flower-scape, spreading like a fan. They are sword-shaped, sheathing the stem towards the base, and marked with numerous small lines. The upper ones are undulated, or somewhat curled at the margin, and of a pale green. The flower-scape is sometimes slightly branched ; but more generally it is simple. The spathes consist of a light brown membrane striped with black, and very much torn at the edges. The flowers are ringent, and consist of a long slender tube, and a campanulate limb ; the upper part is divided into three distinct segments, the centre one of which is much broader than the others, and stands erect. The lower part or labellum is deeply three-cleft, but is entire at the base. This curious plant was brought from the interior of the South African peninsula, by Mr. Synnot, in honour of whom the genus has been very appropriately named. It was introduced into Britain in 1825. It is nearly hardy, and may be grown in the open garden in a dry sandy soil ; but it does best on a sloping bank open to the south. If slightly protected in severe winters, it may remain in the ground in such a situation many years without taking up ; but where the situation is low and damp, it is apt to rot if left in the ground during winter without protection. It flowers from June or July to September ; and it is generally planted in spring.

2.—SYNNOTIA BICOLOR, *Swt.* THE TWO-COLOURED SYNNOTIA.

SYNONYMS.—*Ixia bicolor*, *Ker.* ; *Gladiolus tricolor*, *Thunb.* ; *G. latifolius*, *Breyn.* ; *G. villosus*, *Burm.* ; *Sparaxis tricolor*, *Hort.*

ENGRAVINGS.—*Bot. Mag.* t. 548 ; and our *fig. 3*, in Plate 14.

SPECIFIC CHARACTER.—Perianth ringent, having the limb about equal in length to the tube ; lateral segments smaller than the lower ones, convolute. Leaves ensiform. Spathe jagged.

DESCRIPTION, &c.—At first sight the flowers of this plant appear so different from those of *S. variegata*, that it seems astonishing how they could have been ranked together. On a closer examination, however, the

features will be found to be the same. There is the same peculiarity in the centre one of the three upper segments of the perianth, being erect, and longer than the others; the same slender tube, the same deeply-cleft lower limb, and the same membranaceous and lacinated spathe. The flowers of this species are without scent, and they appear in March. The plant was introduced in 1786, and its culture is the same as that of *S. variegata*.

*S. GALEATA*, Swt.; *GLADIOLUS GALEATA*, Jacq.; THE HELMET-FLOWERED SYNNOTIA.

The flowers of this species greatly resemble those of the preceding kind. It is a native of the Cape, and was introduced in 1825.

### GENUS XXIII.

#### SPARAXIS, Ker. THE SPARAXIS.

*Lin. Syst.* TRIANDRIA MONOGYNIA.

GENERIC CHARACTER.—Spathe aristately jagged, dry. Perianth funnel-shaped, spreading, or tubular, 6-cleft; tube short, slender. Limb large, regular, equal. Stamens 3, inclosed, collateral, and some- times ascending, anthers linear. Stigmas 3, narrow, linear, complicate, diverging. Capsule membranous, oblong, trigonal torulose, 3-celled, 3-valved. Seeds in 2 rows in each cell, numerous, globose.

DESCRIPTION, &c.—Most of the plants which compose this genus were, on their first introduction, considered to belong to the genus *Ixia*; but they were separated from it principally on account of their lacerated spathes, and also from some differences in the form of the capsules and seeds. At first the plant now called *Synnotia* bicolor was included in the genus *Sparaxis*, but it has been separated, as before mentioned, on account of its curiously-formed corolla and dilated stigmas. The word *Sparaxis* is derived from *spathos*, torn, in allusion to the lacerated spathe. The species are nearly all dwarf plants, producing abundance of splendid flowers, and they are all natives of South Africa.

#### 1.—SPARAXIS TRICOLOR, Ker. THE THREE-COLOURED SPARAXIS.

SYNONYME.—*Ixia tricolor*, Curtis.

ENGRAVINGS.—Bot. Mag. t. 381; and our *fig.* 3, in Plate 15.

SPECIFIC CHARACTER.—Perianth stellately spreading, having the tube shorter than the spathe, and obovate mucronated segments. Scape flexuous, 3-flowered, longer than the leaves, which are bluntish.

DESCRIPTION, &c.—This species is of rather taller growth than the generality of the other kinds of *Sparaxis*, and it has a slender stem, which is somewhat crooked, and requires support. The flowers are of extraordinary brilliance and splendour. The lower part of each segment of the perianth is of a brilliant yellow, bordered by a patch of dark purple velvet, so rich and deep as to look nearly black. Beyond this, the rest of each segment is of a dark and brilliant orange. The anthers are yellow, and the stigmas purplish. The species is a native of the sandy plains near the Cape of Good Hope, and it was introduced in 1789. It is generally grown in a pot, and kept in a frame or greenhouse. In the month of October it should be fresh potted, in a compost of two parts sand and one yellow loam, enriched with a little vegetable mould, and kept regularly watered, though moderately during winter. In spring, when the flower-buds begin to form, the quantity of water should be increased till June, when it will flower; water should then be given more sparingly till the leaves begin to wither, when it should be stopped entirely, till the corms are repotted in October.

2.—SPARAXIS VERSICOLOR, *Swt.* THE VARIOUS-COLOURED SPARAXIS.SYNONYMES.—*S. tricolor*, *var. β*, *Ker.*ENGRAVINGS.—*Brit. Flow. Gard.* t. 160; *Bot. Mag.* t. 1480, *fig. 1.*

SPECIFIC CHARACTER.—Perianth campanulated, having the tube

shorter than the spathe, and obovate-oblong, obtuse, segments. Spathe awned, scape 3-flowered, leaves sheathed, uncinately mucronate.

DESCRIPTION, &c.—The corm is large, and covered with a rough fibrous coat. The stem grows about a foot high, throwing out numerous leaves and branches, each of the latter terminating in a spike of flowers. The leaves, which are very numerous, are broad, and of a pale bluish-green, marked with longitudinal veins, and terminating in a short, hooked, mucro, which forms one of the characteristics of the species. The flower-scapes rise higher than the leaves, and as each produces three or four flowers, a bed of these plants has a very brilliant appearance. The spathes are two-valved, curiously wrinkled, and membranaceous, and they are streaked with numerous brown and purple stripes. The form of the flower greatly resembles that of *S. tricolor*, but the colour is less brilliant, the ground-colour being crimson instead of orange. The species is a native of the interior of South Africa, and it was first introduced by Mr. Griffin, in 1811; but having been lost it was re-introduced by Mr. Synnot. It requires a loamy soil mixed with sand; and if planted in the open ground, it may be left without injury for several years, protecting it slightly the first two or three winters till its roots and offsets have formed a mass, and then leaving it to itself. It produces numerous offsets, which should be suffered to remain untouched if the parent bulb is to remain several years in the ground without taking up, and it ripens seeds. It also occasionally produces small bulbs in the axils of the leaves, which may be taken off and planted like offsets.

3.—SPARAXIS GRIFFINI, *Swt.* MR. GRIFFIN'S SPARAXIS.SYNONYMES.—*S. tricolor*, *var. violaceo-purpurea*, *Thun.*ENGRAVING.—*Bot. Mag.* t. 1482, *fig. 3.*

SPECIFIC CHARACTER.—Perianth funnel-shaped, spreading, having the

tube much shorter than the spathe, and spatulate obtuse segments; awns of spathe subulate. Scape 3—4-flowered, longer than the leaves.

DESCRIPTION, &c.—A dwarf plant with very pretty flowers, the centre of which is yellow, tipped with black, and terminating in purple. The species was introduced by Mr. Griffin, of South Lambeth, in 1811, and was figured in the Botanical Magazine the following year, as a variety of *S. tricolor*, which it probably is. It has been long since lost, but it well deserves re-introducing. The culture is the same as that of the preceding species.

4.—SPARAXIS BLANDA, *Swt.* THE PLEASING SPARAXIS.SYNONYMES.—*S. tricolor*, *var. subroseo-albida*, *Ker*; the blush-flowered Sparaxis.ENGRAVING.—*Bot. Mag.* t. 1482, *fig. 2.*

SPECIFIC CHARACTER.—Perianth funnel-shaped, with a very short tube, and obovate rounded segments, spathe 2-valved, not awned, scape few-flowered.

DESCRIPTION, &c.—A dwarf plant with very pretty pink and white flowers, with a yellow centre. It differs from the other kinds figured in the Botanical Magazine as varieties of *S. tricolor*, in having no black or dark purple in its flowers. It was imported with the other species supposed to belong to *S. tricolor*, in 1811, by Mr. Griffin, of Lambeth; and its culture is the same as that of the preceding species. They all flower in April or May.



5.—SPARAXIS GRANDIFLORA, *Ait.* THE LARGER-FLOWERED SPARAXIS.

SYNONYMES.—*Ixia grandiflora*, *Ker*; *I. bulbifera* var. *Thunb.*; *I. aristata*, *Andr.*; *I. uniflora*, *Lin.*; *I. holosericea*, *Jacq.*; *Systirinchium æthiopicum*, *Comm.*; velvet-flowered *Ixia*.

ENGRAVINGS.—*Bot. Mag.* t. 541; *Bot. Rep.* t. 8; and our *fig. 4*, in Plate 15.

VARIETY.—*S. g. 2. striata*, *Ker.*; *Bot. Mag.* t. 779; and our *fig. 5*, in Plate 15.

SPECIFIC CHARACTER.—Perianth stellately spreading, with a short tube, and oblong cuneated obtuse segments; awns of spathe subulate. Scape 2—3-flowered, longer than the leaves.

DESCRIPTION, &c.—A dwarf plant, rarely growing more than six inches high, with from five to eight short leaves rising from the base. The scape is stiff, and stands quite erect without any support; and the spathes are membranaceous, and divided into numerous jagged segments. There are from one to five flowers on each scape. The flowers are whitish on the outside, and of a dark, rich, reddish-purple, which has a peculiar and velvet-like look, within. This species has the habit common to several species of this genus, of producing bulbs in the axils of its leaves. The flowers have no fragrance. It is a native of the Cape, and was sent to Kew in 1758. It flowers in May, and requires the same culture as the other kinds. The variety is very different from the species. It is yellowish, and each segment is marked with a rich brownish-purple stain at its base. The back of the segments before the flowers expand, is beautifully streaked or feathered. This variety was introduced by Mr. Salisbury, from the Cape, in 1803.

6.—SPARAXIS PENDULA, *Ker.* THE PENDULOUS SPARAXIS.

SYNONYMES.—*Ixia pendula*, *Thunb.*; *Watsonia palustris*, *Pers.*

ENGRAVINGS.—*Bot. Reg.* t. 1360; and our *fig. 1*, in Plate 15.

SPECIFIC CHARACTER.—Perianth funnel-shaped, spreading, with a

very short tube, and oblong-obtuse segments. Spathe jagged. Scape branch of several spikes, longer than the leaves, which are linear.

DESCRIPTION, &c.—A very remarkable species, and very unlike all the other kinds of *Sparaxis*, from the long flexible flower-scape, which is from four feet to six feet long, and has several long and graceful drooping racemes of purple flowers hanging from it. It is a native of South Africa, but contrary to the habits of the other species; it is found only in wet situations. It is rather tender in England, and grows best planted in the free ground in a conservatory. It should be suffered to grow without any restraint, when its long stems will shoot up at first erect, and then droop downwards, like those of some of the kinds of *Oncidium*. The stem will grow to the length of five or six feet, and the leaves to that of three feet; the leaves forming a compact reed-like bush, from which the stems spring.

7.—SPARAXIS LINEATA, *Swt.* THE RED-LINED SPARAXIS.

ENGRAVINGS.—*Swt. Brit. Flow. Gard.* 2d Ser. t. 131; and our *fig. 6*, in Plate 15.

SPECIFIC CHARACTER.—Segments of the perianth erect, acute, keeled

beneath; segments of spathe cuspidate. Leaves ensiform, striated, acute; stem erect, leafy, dichotomous, 3—4-flowered.

DESCRIPTION, &c.—An erect-growing dwarf plant, with very pretty flowers, which are rather curiously marked. Each segment is yellow at the base, clouded with black above and white beyond, with a pink stripe down the centre. A mass of leaves rises from the base of the flower-stem, and the stem itself is frequently branched. The species was introduced about 1820, and appears tolerably hardy. It flowers freely, and requires to be grown in a dry sandy soil, and protected from heavy rains and severe frost during winter. Thus treated, it may remain in the ground for several years without injury. It is also very suitable for growing in pots and boxes, on account of the beauty of its flowers and the compactness of its habit of growth.







8.—SPARAXIS LILIAGO, *Swt.* THE LILY-FLOWERED SPARAXIS.

SYNONYMES.—*S. grandiflora*, *var. liliago*, *Ker*; *Ixia grandiflora*, *De la Roche*; *I. liliago* *Redouté*; *I. fimbriata*, *Lam.*

ENGRAVING.—*Bot. Reg.* t. 545.

SPECIFIC CHARACTER.—Perianth campanulate, with a slender tube,

which is about the length of the spathe, and cuneate-oblong mucronate segments. Scape 4—5-flowered, longer than the leaves, which are acute.

DESCRIPTION, &c.—The flowers of this species are very large and lily-like. They are white, and resemble the striated variety of *S. grandiflora* in the marks on the back. They have no fragrance, and are neither so beautiful nor so compact in their habit of growth as most of the other kinds of Sparaxis. The leaves are broad, and of a yellowish-green. The flowers are produced in April and May, and the plant requires the same culture as *S. grandiflora*, of which it was originally supposed to be a variety. This plant differs essentially from the last in the large size of its flowers, and in its loose and somewhat untidy habit of growth. It is thus unsuitable for boxes under a veranda or in a balcony; into which only the smallest and neatest-growing flowers should be admitted. Nothing has a better effect than boxes filled with dwarf plants, beautifully kept, and so abundant in flowers as to hide the stiff outline of the box; while, on the contrary, nothing looks worse than the same boxes filled with etiolated straggling plants ill kept and ill grown. The boxes in a balcony or veranda are so near the house as almost to become a part of it, and they should partake in some degree of the high finish of the drawing-room from which they are seen.

9.—SPARAXIS BULBIFERA, *Ait.* THE BULB-BEARING SPARAXIS.

SYNONYMES.—*Ixia bulbifera*, *Lin.*; *I. b. var. flava*, *Thunb.*; *I. moanthos*, *De la Roche*; the sulphur-coloured *Ixia*.

ENGRAVING.—*Bot. Mag.* t. 545.

SPECIFIC CHARACTER.—Perianth spreading in a stellate manner,

with a slender tube, which is shorter than the segment of the spathe; and oblong, cuneate, obtuse segments. Scape 2—3-flowered, shorter than the leaves, which are acute; spathe jagged, with subulate segments.

DESCRIPTION, &c.—There is nothing very remarkable in the shape of the flower of this species, though there is in its colour, which is a pure and brilliant yellow, very unlike the other kinds of Sparaxis. The shape of the flower is somewhat campanulate, with all the segments nearly equal; and from three to five flowers are produced from each bulb, the flower-stem being frequently branched. The flowers have a very slight fragrance. The leaves are short, and of a yellowish green. It has been already mentioned that several species of Sparaxis have the property of bearing bulbs in the axils of the leaves and on the joints of the stem; but this species possesses the property to a greater degree than any other, as it will frequently produce three or four bulbs at each joint, which will fall off when mature, and will produce young plants. The species is a native of the Cape, and was introduced in 1758.

10.—SPARAXIS STELLARIS, *D. Don.* THE STARRY SPARAXIS.

ENGRAVINGS.—*Swt. Brit. Flow. Gard.* 2d Ser.; and our *fig. 2*, in Plate 15.

SPECIFIC CHARACTER.—Perianth funnel-shaped, with a filiform tube,

and lanceolate, acute segments. Branches of style elongated. Scape few-flowered, longer than the leaves, which are acute.

DESCRIPTION, &c.—A very pretty species of Sparaxis, remarkable for the singular colour of its flowers, and their elegant shape. The scape or flower-stem has but few flowers, but these have a very striking appearance, from the slenderness of the tube which rises above the fringe-like filiform segments of the spathe. These tubes are red, but the rest of the perianth is of a deep purple within, and whitish without. The species is a native of the Cape, whence it was introduced in 1837, and it has flowered in the nursery of Mr. Rogers, at Battersea.

## OTHER SPECIES OF SPARAXIS.

*S. FRAGRANS, Ker.*

The flowers are yellow and very fragrant. This species is a native of the Cape, and was introduced in 1825.

*S. ANEMONEFLORA, Ker.; IXIA ANEMONEFLORA, Jacq.*

The flowers are stone-coloured; and this species was introduced from the Cape the same year as the preceding kind.

## GENUS XXIV.

TRITONIA, *Ker.* THE TRITONIA.*Lin. Syst.* TRIANDRIA MONOGYNIA.

GENERIC CHARACTER.—Spathes 2-valved, scarious. Perianth with a turbinate tube, a 6-parted limb, and unguiculate segments. Stamens three, inclinate; filaments curved; anthers oscillating. Stigmas three, recurvedly spreading. Capsule ovate-roundish. Seeds numerous, globose.

DESCRIPTION, &c.—The genus *Tritonia* takes its name from a Greek word signifying a weathercock, in allusion to its anthers, which turn and twist about in a very singular manner. In other respects, *Tritonia* is not what may be called a natural genus, as the flowers of the different species differ so widely in the shape as scarcely to be recognised. Some of the flowers are funnel-shaped, with very long tubes, and a regular spreading limb, like a jessamine. Others are salver-shaped, with a very short tube, like an *Ixia*; and others are bell-shaped, like the common Cornflag. The genus *Tritonia* is indeed so nearly allied to the genera *Sparaxis*, *Gladiolus*, *Babiana*, and *Ixia*, that I have thought it may be useful to state here a few of the most striking points in which they differ. The different kinds of *Sparaxis* have all membranous jagged spathes, and many of the species bear bulbs in the axils of their leaves, which the *Tritonias* never do; the spathes of the *Tritonias* are also smooth and green. The seeds of the *Gladiolus* have a little thin membrane round them, called by botanists a wing; while those of the *Tritonia* are smooth and naked. The fruit of the *Babiana* is a berry; while that of the *Tritonia* is a dry capsule. The stamens of the *Ixia* are inserted at the foot of the limb, or spreading part of the flower; while those of the *Tritonia* spring from the tube. There are many other points of difference, but these are the plainest and most perceptible.

Most of the kinds of *Tritonia* are of dwarf stature, and they are nearly all more tender than the *Gladioli*. For these reasons they are generally grown in pots, kept either in a frame or greenhouse, and indulged with bottom heat (that is plunged into a hotbed), to force them to throw out roots before the development of their leaves. This is the great secret in the management of all the weaker kinds of Cape bulbs. They grow so rapidly, and require so many mouths, as their roots may be called, to enable them to imbibe the moisture necessary to support their numerous leaves and flowers, that unless their roots are brought forward by some artificial means, the leaves and stems wither for want of food; that is, from the evaporation from their leaves being greater than they have the means of supplying. In some situations, where the soil is good, and the ground warmer than the surrounding atmosphere, the earth acts as a natural hotbed; and hence the apparent contradiction which sometimes occurs in the culture of the *Gladioli*—these plants flourishing better in the open air in Yorkshire

(see p. 64), than they do in the neighbourhood of London, unless in pits properly prepared for them. This principle was suggested to me by Mr. Beaton, who is at once an excellent gardener and a very intelligent man ; and it will be found illustrated by the following observations written by a lady at Cheltenham (and which were published in the *Gardener's Magazine* for May 1840), as it is evident that her system of management depends entirely on bringing forward the roots by means of bottom heat. I shall give the whole article in the lady's own words.

"The plants belonging to the natural order *Iridaceæ* from the Cape have for many years possessed great attractions for me, at a period when they were scarcely to be procured, except through some accidental circumstances, and before they engaged as much general attention as they have now obtained. The mode I pursued in cultivating them was, accordingly, the result of my own experience ; for though in the West of England I have seen beds of *Sparaxis grandiflora* and *S. tricolor* in great perfection in the open ground, still I often found the best success attend the following system ; and I am inclined to think the delicate beauty of the flowers of this order is shown to greater advantage when, from being grown in pots, these plants can be removed to the greenhouse.

"In the month of October the bulbs were examined, and the larger ones, separated from the offsets, were potted in a compost of fresh light turfy loam and sand, with good drainage ; and I have found, with regard to the stronger-growing *Gladioli*, a layer of rotten cow manure over the drainage conduce much to the vigour of their growth. At the same time I had a good bed prepared of dry old tan mixed with some fresh hot litter from the stable, at least two feet in thickness above the level of the garden, and on the top a large frame placed. Within this the pots were plunged in old tan ; the stronger-growing *Gladioli* at the back ; *ixias*, *sparaxis*, *babianas*, *tritonias*, &c., arranged in gradation to the low-growing species of *Oxalis* and *Lachenalia* in front. The lights were put on at night, giving abundance of air in fine weather, and withholding water, until the bulbs had made roots and the leaves appeared, at which time it was carefully given, to avoid exhausting the bulbs by drought, when there was no danger of frost. On the occurrence of severe weather, I had the frame well banked round with old tan, assisted by hot dung, and the lights well protected by external coverings.

"Under this management the *Sparaxis* of different kinds began to show bloom about the end of April, and being removed to the greenhouse, opened their flowers to the sun with great brilliancy. The *ixias* and *babianas* succeeded them, and were also removed to the front of the house. The *Gladioli* usually outgrew the height of the frame, and threw up their flower-stalks vigorously on the stage of the greenhouse. Lastly, the varieties of *Tritonia* formed a blaze, in shades of orange, copper-colour, and pink. After the blooms were past, I continued watering the pots to perfect the foliage, and form the bulbs for the ensuing season ; and by replacing them in the frame, and giving them full exposure to the sun until the leaves gradually died away, the bulbs became thoroughly ripened. After a period of drought and rest, they were ready for repotting the following October.

"For the last two years I have not had opportunity to continue my accustomed method of culture, and last autumn my Cape *Iridaceæ* were placed in a cold frame, from which the frost was just excluded during the winter, and the pots plunged in sand : they look badly, and will not flower, which I attribute partly to the bulbs not being well matured, owing to the cold wet summer of last year, and more especially to their not receiving a requisite degree of bottom heat to induce them to form roots freely during the winter, which insures a vigorous growth of the leaves, and the production of flowers. To attain this end, the temperature of the soil in the pots must be some degrees higher than that of the atmosphere which surrounds them."



## 1.—TRITONIA CRISPA, Ker. THE CURLED-LEAVED TRITONIA.

SYNONYMES.—*Gladiolus crispus*, Linn.; *G. laceratus*, Bunn.

ENGRAVING.—Bot. Mag. t. 678.

SPECIFIC CHARACTER.—Perianth subringent, with a very long tube, which is three or four times as long as the spathe. Segments equal

in length; three upper ones oblong-obovate, obtuse, unguiculate, the central one the broadest; lower ones equal, ligulate, obtuse. Spathe 2-valved, subarabaceous, very smooth. Scape many-flowered. Flowers secund.

DESCRIPTION, &c.—The flowers have very long tubes like those of some of the kinds of *Babiana*, opening at the upper part into six widely spreading segments, which are of a pale bluish colour within, and striped with a dark purplish pink on the outside. The species was found by Thunberg on the Redsand Hills, and at Picketberg near the Cape of Good Hope; and it was introduced into the Kew Gardens in 1787, by Mr. Masson. It is generally grown in a pot in a greenhouse or frame, in a compost of three-sevenths turfy loam, three-sevenths sand, and one-seventh peat. The bulbs should be planted in October, and kept in a greenhouse or frame, where they are protected from the frost during the winter. The flowers do not appear till June; and after they have fallen, the plants should be suffered to retain their leaves, and be moderately watered, till the new bulbs are perfected, which is known by the leaves beginning to decay. Water is then withheld till October, when the bulbs are taken up and re-potted in a fresh compost of loam, sand, and peat, for flowering the following season.

## 2.—TRITONIA VIRIDIS, Ker. THE GREEN TRITONIA.

SYNONYME.—*Gladiolus viridis*, Ait.

ENGRAVING.—Bot. Mag. t. 1275.

SPECIFIC CHARACTER.—Segments of the perianth spreading, reflexed,

tube very long. Leaves ensiform, glabrous. Scape triquetrous, the angles membranaceous.

DESCRIPTION, &c.—This species has no beauty to recommend it, but it is often grown for its singularity. The stem, which is very short, rises from a tuft of yellowish-green leaves, and it is curiously twisted and distorted; the flowers seeming to be placed at right angles to each other. The spathes are very short, and the tubes of the flowers very long, with the segments turned in several different ways, so as to present a strange and almost grotesque appearance. The colour of the flowers is a pale green, faintly tinged with a dingy-looking pink. The species is a native of the Cape, whence it was brought to Kew in 1787, and its culture is the same as that of *T. crispa*.

## 3.—TRITONIA ROSEA, Ait. THE ROSY TRITONIA.

SYNONYMES.—*Tritonia capensis*, Ker.; *Houttuynia capensis*, Hout.; *Gladiolus roseus*, Jacq.; *G. striatus*, Banks.

ENGRAVINGS.—Bot. Mag. t. 618; and our fig. 3, in Plate 17.

SPECIFIC CHARACTER.—Perianth funnel-shaped; tube very long; central upper segment erect, and larger than the others, the rest linear-oblong, and divergently spreading.

DESCRIPTION, &c.—This is a very distinct species, from its grass-like leaves, and curiously marked flowers, which are so strongly veined as to appear striated. The leaves are narrow and attenuated at the point; the flower-stem is branched, and each branch produces from four to six flowers. The spathes are small, red, and ending in long bristle-like points, which look like the awns of an ear of barley. The flowers are erect, with very long red tubes, and a large handsome limb, the segments of which are strongly veined with pale pink, the three lower ones being marked with a small yellow, lozenge-shaped spot, bordered with dark-red. The anthers are purple, and the stigmas which rise above them are white.

This species is very handsome, but it appears delicate, and it requires to be kept in a pot and carefully nursed. The name of *roseus* alludes to the deep pink of the tube. The flowers have no fragrance, and they do not appear







till July. The species is a native of South Africa, but it was sent to England from Holland about 1793. Its culture is the same as that of *T. crispa*. It is somewhat interesting in a botanical point of view as having served Houttuyn in his Natural History as the type of a new genus, which he rather unusually named after himself. Other botanists have not, however, thought his distinctions sufficient to constitute a genus.

#### 4.—TRITONIA CAPENSIS, Ker. THE CAPE TRITONIA.

SYNONYMES.—*T. capensis*, var.  $\beta$ , Ker.; *Gladiolus longiflorus*, Lin.; *Houttuynia capensis*,  $\beta$  minor, Hout.; the Lesser Trumpet Tritonia.  
ENGRAVING.—Bot. Mag. t. 1531.

SPECIFIC CHARACTER.—Perianth funnel-shaped, tube nearly twice as long as the spathe; segments of the limb nearly equal. Spathe lacerated and awned.

DESCRIPTION, &c.—The flower differs from that of *T. rosea*, in being smaller, and of brighter colours; the flower is cream-coloured, but the segments of the perianth are marked inside with dark red stains, and the tube is tinged with purple. The spathes are much cut, and terminate in long brownish awns. The leaves are from three to six inches, the outer ones decreasing gradually in size; the stem is about nine inches long, and it bends very gracefully, especially before the expansion of the flowers. The species is a native of the Cape, whence it was introduced by Mr. Griffin, in 1811; and it flowers from August to October.

#### 5.—TRITONIA LONGIFLORA, Ker. THE LONG-FLOWERED TRITONIA.

SYNONYMES.—*Ixia longiflora*, Ait.; *Gladiolus longiflorus*, Lin.; *Hexaglottis longiflora*, Vent.

ENGRAVINGS.—Bot. Mag. t. 256; and our fig. 3, in Plate 16.

VARIETIES.—*T. l. 2 tenuiflora*, Ker.; Bot. Mag. t. 1502, fig. 1; *Ixia tenuiflora*, Vahl. The segments of the perianth are equal, and the tube more slender.

*T. l. 3 concolor*, Ker. The segments of the perianth are equal, but the tube is much shorter, and the anthers and stigmas are exerted.

SPECIFIC CHARACTER.—Perianth funnel-shaped, tube exceedingly long, segments of the limb reflexed, each alternate one narrower than the rest. Anthers and stigmas not exerted. Leaves ensiform, linear.

DESCRIPTION, &c.—One of the least ornamental species, on account of the extraordinary length of the tube, and the dingy colour of the flowers. The spathes appear as remarkably short as the flowers are long. The leaves are long, narrow, and stand stiffly erect. The species is a native of the Cape, whence it was introduced in 1774; and it requires the same culture as the other species. It flowers from April to June, and it is often found in collections. Of the varieties, *T. l. tenuiflora* has rather handsomer flowers than the species; the segments of the corolla are all of the same size, and the tube is more slender; the whole flowers are also of a pale straw-colour, and only tinged with purple inside the cup. In all other respects they are the same, and in both the anthers are dark purple, and the stamens and pistils do not project beyond the cup of the flower. In the variety *T. l. concolor* the tubes of the flowers are shorter, the anthers are yellow, and both they and the stigmas project beyond the cup of the flower. The colour of the flowers is also a pale yellow, without any tinge of purple or pink.

#### 6.—TRITONIA FUCATA, Lin. THE PAINTED TRITONIA.

ENGRAVINGS.—Bot. Reg. 1838, t. 35; and our fig. 1, in Plate 16.

SPECIFIC CHARACTER.—Perianth bilabiate; tube ventricose, and arched in the upper part; upper limb oblong, bidentate, somewhat

forked, lower limb 5-parted. Segments linear, obtuse, equal, recurved. Scape recurved. Flowers secund, erect.

DESCRIPTION, &c.—This very beautiful plant is one of the most brilliant kinds of *Tritonia*; and it is somewhat remarkable, that bulbs of it remained for five-and-twenty years in the garden of the Hon. and Rev. W. Herbert at Spofforth, without flowering. Some having been left in the open ground, they multiplied rapidly,

the old bulbs remaining, and forming a kind of chain by the side of the new bulbs, which formed every year. In the autumn of 1837, manure was laid on one of these patches, and the result was the production of a spike of flowers nearly three feet high, which continued in flower above a month. The leaves of the plant were broad and ensiform, standing erect to the height of about two feet and a half round the flowers which surmounted them. The species is a native of the Cape, and appears to have been introduced about 1812.

#### 7.—TRITONIA ODORATA, Lodd. THE SWEET-SCENTED TRITONIA.

ENGRAVING.—Bot. Cab. t. 1820.

SPECIFIC CHARACTER.—Perianth ringent, tube ventricose, but not | arched, segments of the limb nearly equal. Scape decurved, kneed.  
Flowers secund, erect.

DESCRIPTION, &c.—A pretty little plant, bearing a considerable resemblance in form and habit of growth to the preceding species, but wanting its brilliancy of colour. Each bulb generally sends up two flower-scapes, and four or five leaves, which are much shorter than the stem. The flowers are yellow; they are very fragrant, and they are produced early in May. The species is a native of the Cape, whence it was introduced in 1829. It is generally grown in sandy peat, and it does better in the open air in a dry sheltered situation, than in a frame or greenhouse. It is increased by offsets.

#### 8.—TRITONIA ROCHENSIS, Ker. DE LA ROCHE'S TRITONIA.

SYNONYMS.—*Ixia paniculata*, *De la Roche*; *I. longiflora*, *Berg.*; *Gladiolus longiflorus*, *Thunb.*; *Sisyrinchium Africanum*, *Herne*; the Bending-flowered Tritonia.

ENGRAVING.—Bot. Mag. t. 1503.

SPECIFIC CHARACTER.—Perianth salver-shaped, but with a rather long slender arched tube; segments subcuneately elliptic, somewhat concave, equal. Leaves ensiform, nerved. Scape simple or paniculately branched. Flowers distich.

DESCRIPTION, &c.—A very handsome plant, from its large *Ixia*-like flowers, which only resemble those of the other Tritonias in their rather long and slender tubes, which are delicately striped with pink. The flowers, which droop gracefully from their bending tubes, are cream-coloured, with a pink and green star in the centre; and they are produced in great abundance from June till August. The species is a native of the Cape, and was introduced in 1813. This species resembles *T. fucata*, in producing chains of new bulbs attached to the old ones; and it would probably flower well in the open ground, in a rich yellow mixed with a little sand. It is, however, generally grown in pots, and brought forward in a pit under a frame, or in a greenhouse, till it has formed its flower-buds, when, after it has been gradually hardened by giving it air, the pot should be plunged in the open ground. It is also sometimes grown in a sandy soil, on a sloping bank open to the south; where it may be left in the ground all the year, if a little protection be given to it during winter.

#### 9.—TRITONIA LINEATA, Ker. THE PENCILLED TRITONIA.

SYNONYMS.—*Gladiolus lineatus*, *Sal.*; *Ixia squalida*, *var. stricta*, *Ait.*

ENGRAVINGS.—Bot. Mag. t. 487; and our *fig. 5*, in Plate 16.

SPECIFIC CHARACTER.—Perianth campanulate; segments of the limb four times larger than the tube; segments elliptic, unequal, the upper one being broader than the rest, incurved, but somewhat spreading.

DESCRIPTION, &c.—The flowers are of a delicate straw-colour or pale yellow, tinged with a dark orange hue at their margin; and they are beautifully pencilled with fine dark lines, three of which are in the centre of each segment, and the others branching from them. The stalk is erect, and grows about two feet high; it is round and smooth, and it terminates in a spike of five or six flowers, which nods remarkably before the flowers open. The

flowers are secund, and rise from two-valved spathes, which are brown, membranaceous, and end in pinkish bristly points. The leaves are long, erect, and rather narrow, and they have the midrib strongly marked. The species was introduced in 1774, and requires the usual treatment of the hardier kinds of Cape bulbs; as it may be grown either in a pot, or in the open ground, in which latter case it may generally be left in the ground without protection. It flowers freely in May, and is propagated by seed or offsets.

#### 10.—TRITONIA SECURIGERA, Ker. THE HATCHET-BEARING TRITONIA.

SYNONYMES.—*Gladiolus securiger*, Ait. ; *Ixia gladiolus*, Lam. ;  
*Montbretia securigera*, Redouté ; the Copper-coloured Corn-flag.

ENGRAVINGS.—Bot. Mag. t. 383 ; Red. Lil. t. 53.

SPECIFIC CHARACTER.—Perianth salver-shaped ; segments oblong-

obtuse, the three lower ones having each a horny unguiculate appendage at the base, which stands erect. Outer valve of the spathe obtusely indented. Flowers distich.

DESCRIPTION, &c.—This species is easily distinguished from all the other *Iridaceæ*, by three curious little hatchet-shaped horny substances, the use of which does not appear obvious, one of which is placed at the base of each of the three lower segments of the flower. These singular appendages are yellow, while the rest of the flower is copper-coloured, with a dark mark on the three lower petals. The leaves are short and somewhat blunt, and the whole plant does not grow above eight inches or a foot high. It is a native of the Cape, and was introduced in 1774. It is generally grown in pots ; and if treated as directed for the *Tritonias* generally (see p. 73), it will produce abundance of flowers in May and June.

#### 11.—TRITONIA FLAVA, Ker. THE YELLOW TRITONIA.

SYNONYMES.—*Gladiolus flavus*, Soland. ; Paterson's Tritonia.

ENGRAVINGS.—Bot. Reg. t. 747 ; and our fig. 6, in Plate 16.

SPECIFIC CHARACTER.—Perianth somewhat campanulate, with an

elongated tube : segments nearly equal, recurved, three lower ones with each a small raised lozenge-shaped appendage. Exterior valve of the spathe cuspidate. Stem jointed.

DESCRIPTION, &c.—A dwarf plant, with very short small leaves, a slight delicate stem, and bright yellow flowers ; the three lower segments of which have each a small horny protuberance, of the same nature as those of *T. securigera*, but much smaller and less conspicuous. All the segments roll up backwards when they begin to fade ; and the new bulbs and offsets form a kind of chain attached to the remains of the old bulbs, in the same manner as several other kinds of the genus. The species was introduced from the Cape, by Colonel Paterson, in 1780, but it was soon lost. It was re-introduced in 1822, but is now seldom seen in collections. It should be grown in a pot, and requires the same treatment as the other half-hardy species.

#### 12.—TRITONIA REFRACTA, Ker. THE REFLEXED TRITONIA.

SYNONYMES.—*Gladiolus refractus*, Jacq. ; *G. resupinatus*, Persoon.

ENGRAVINGS.—Bot. Reg. t. 135 ; and our fig. 2, in Plate 16.

SPECIFIC CHARACTER.—Perianth subringent ; segments ovate, nearly

equal, somewhat reflexed ; stamens ascending, stigmas bifid. Scape branched ; branches divaricate. Flowers secund, erect, somewhat resupinate.

DESCRIPTION, &c.—One of the most remarkable species of the genus, from the curious manner in which the flower-stem is bent, and in which the flowers are twisted. The stem grows from one foot to two feet high, throwing out three or four branches, each terminating in a spike of six or seven flowers. The leaves are narrow like grass, and glaucous ; the flowers are fragrant, and the spathes are very small. The plant was introduced from the Cape in 1815, and it flowers in May or June. It may be grown either in pots or in the open ground ; but it should not be taken up oftener than once in two or three years.



## 13.—TRITONIA SQUALIDA, Ker. THE SQUALID TRITONIA.

SYNONYMES.—*Ixia squalida*, *Ait.* ; *I. lanica*, *Thunb.* ; *I. crocata*, var. *Burm.* ; *I. similis*, *Sal.* ; Sweet-scented Tritonia.

ENGRAVINGS.—*Bot. Mag.* t. 581 ; and our *fig.* 1, in Plate 17.

SPECIFIC CHARACTER.—Perianth salver-shaped, segments equal, unguiculate and united at the base, urceolately gibbous, and rounded at the margin. Leaves ensiform, sometimes blunt and falcate. Flowers secund.

DESCRIPTION, &c.—It is very difficult to imagine why this beautiful plant should be called squalid, unless by antithesis, as nothing can be more fresh and less squalid than its appearance. The leaves are broad and strongly nerved, the flowers are beautifully coloured and very fragrant, and the plant is remarkably handsome. The flower-stem grows about a foot high, and produces six or eight flowers. The species is a native of the Cape, whence it was sent to Kew Gardens in 1774, by Mr. Masson. It is generally grown in a pot in a light sandy loam, and it flowers abundantly in May. Its culture is the same as that of the other species.

## 14.—TRITONIA FENESTRATA, Ker. THE WINDOW-FLOWERED TRITONIA.

SYNONYMES.—*Ixia fenestrata*, *Jacq.* ; Open-flowered Tritonia.

ENGRAVINGS.—*Bot. Mag.* t. 704 ; and our *fig.* 2, in Plate 17.

SPECIFIC CHARACTER.—Perianth funnel-shaped ; tube turbinate ;

segments equal, unguiculate, spreading, obtuse at the margin ; hyaline at the base ; much longer than the tube. Leaves short, acuminate. Flowers secund.

DESCRIPTION, &c.—A very remarkable plant from the long claws of the segments, which, with the transparent glossy membrane on each side, give the flowers a very open appearance, and hence the curious specific name. The plant is very strong and healthy, and may safely be planted out in the open border. It is a native of the Cape, whence it was introduced in 1801. It looks remarkably well in a bed in a regular flower garden, or in boxes under a veranda, where, when well grown, it forms a perfect blaze of brilliancy. In its culture, when planted in the open ground, it only requires to be slightly protected for the first two or three winters, till its roots have become firmly established in the soil ; and when this is the case, it may be left entirely to itself. It flowers in May.

## 15.—TRITONIA CROCATATA, Ker. THE SAFFRON-COLOURED TRITONIA.

SYNONYMES.—*Ixia crocata*, *Ait.* ; *I. planifolia*, *Mill.* ; Crocus-flowered Tritonia.

ENGRAVING.—*Bot. Mag.* t. 184.

SPECIFIC CHARACTER.—Perianth campanulate ; tube very short, and hyaline ; segments ovate, equal, conniving. Leaves ensiform, acuminate, very short. Flowers distich.

DESCRIPTION, &c.—The peculiarity of this flower is the transparent glossiness of the tube, which contrasts strongly with the heavy mass formed by the ovate segments of the corolla, which lie so closely together that their division is scarcely perceptible. It is a native of the Cape, whence it was introduced before 1758, as in that year Miller had a mass of it in the Chelsea Botanic Garden. It is one of the kinds that may be planted in the open ground in a yellow sandy loam, and left for several years without taking up, protecting it at first like *T. fenestrata*. It produces abundance of flowers in May.

## 16.—TRITONIA DEUSTA, Ker. THE BLIGHTED TRITONIA.

SYNONYMES.—*Ixia deusta*, *Ait.* ; *I. gibba*, *Sal.* ; *I. crocata*, var. *maculata*, *Thun.* ; *I. miniata* var. *Jacq.* ; Copper-coloured Tritonia ; Spotted Tritonia.

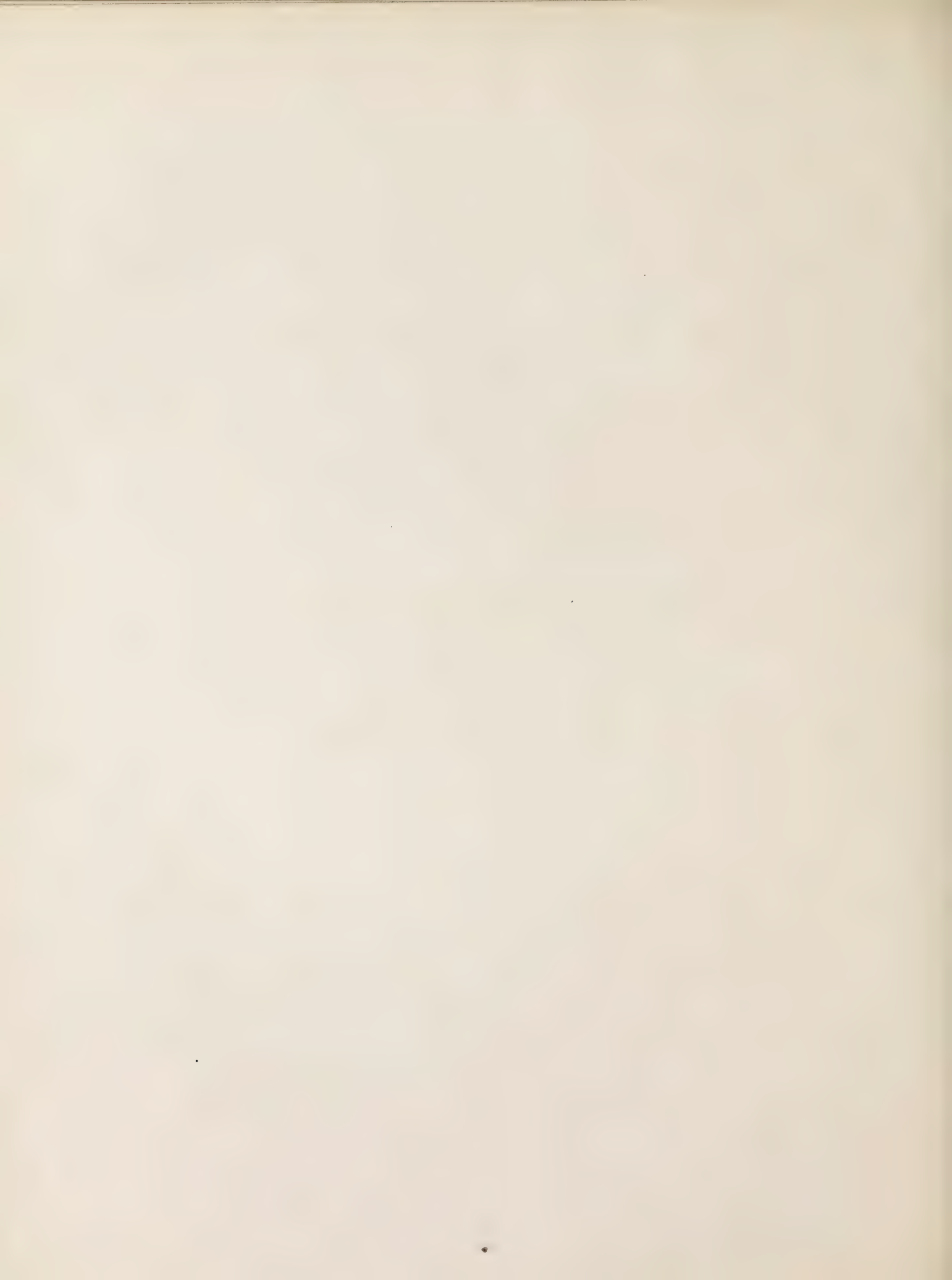
ENGRAVINGS.—*Bot. Mag.* t. 622 ; *Bot. Rep.* t. 134 ; and our *fig.* 4, in Plate 16.

SPECIFIC CHARACTER.—Perianth somewhat campanulate, with a very short tube and a spreading limb ; segments ovate-obtuse, nearly equal, the alternate ones gibbous towards their base. Leaves ensiform, strongly nerved. Flowers secund.

DESCRIPTION, &c.—This species differs from the last in not having any part of its flower transparent, and in



1. *Iris sibirica* 2. *Iris sibirica*





having a blackish protuberance at the base of every alternate segment of the corolla. The flower-stem grows about a foot high, and is branched, though each spike only produces a few flowers. The leaves are broad and strongly veined. The skin of the bulb, when out of the ground, is almost black. This species was brought from the Cape by Mr. Masson in 1774, and it flowers in May. It belongs to the hardier kinds of Cape bulbs, and may be treated exactly in the same manner as directed for the two preceding species.

#### 17.—TRITONIA MINIATA, Ker. THE VERMILION-STAINED TRITONIA.

SYNONYMES.—*Ixia miniata*, Jacq. ; Late-flowering Tritonia.

ENGRAVING.—Bot. Mag. t. 609.

SPECIFIC CHARACTER.—Perianth somewhat funnel-shaped, with a

very short tube, and a spreading limb ; segments obovate, equal.  
Leaves ensiform, elongately acuminate, sub-falcate, erect. Flowers  
distich.

DESCRIPTION, &c.—Very pretty lively-looking orange-coloured flowers, the three upper segments of which look as if a little sealing-wax had been dropped on their base. The leaves are short and sharply pointed, appearing to be cut in near the petiole. The flower-stem is about a foot and a half high, erect, and very much branched, and it produces abundance of flowers in August and September. The species was introduced in 1825 : and it should be grown in pots or boxes ; as from the lateness of its flowering it would not otherwise have time to perfect its leaves and new bulbs. When grown in the open ground, it should be planted in spring, and taken up in October.

#### OTHER SPECIES OF TRITONIA.

##### T. ANIGOZANTHIFLORA, G. Don.

The flowers are greenish and resemble in shape those of the Australian shrub *Anigozanthus*. The species was introduced in 1825, and it flowers from June to August.

##### T. PALLIDA, Ker.

The flowers are of a pale straw-colour. The species was introduced in 1806 from Holland.

##### T. PECTINATA, Ker.

The flowers are blush-coloured, with paler stripes. The species was introduced in 1825, and it flowers in May and June.

##### T. STRIATA, Ker.

The flowers are straw-coloured, strongly veined with violet. The year of introduction is not known.

##### T. PURPUREA, Jacq.

The flowers are purple, and the species was introduced in 1825.

##### T. XANTHOSPILA, Sal.

The flowers are white, spotted with yellow, and they are produced in May and June. The species was introduced in 1825.

## GENUS XXV.

IXIA, *Ker.* THE IXIA.*Lin. Syst.* TRIANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth salver-shaped, with a slender tube, and a six-parted, equal, spreading limb. Stamens three; anthers variable. Ovary ovate, trigonal, 3-celled. Ovula numerous; two series in each cell, filiform. Stigmas three, narrow, linear, recurved. Capsule membranous, ovate, globose, trigibbous, 3-celled, 3-valved. Seeds numerous, sub-globose.

DESCRIPTION, &c.—The genus *Ixia* formerly included the plants now belonging to twelve or thirteen other genera, which have been separated from it. The species now composing the genus *Ixia* all belong to the Linnean class *Triandria Monogynia*; they are all natives of the Cape of Good Hope, or of the interior of the peninsula of South Africa, and they are all very ornamental in their flowers. The name of *Ixia* is said to have been given to these plants on account of their viscid roots, and to be derived from a Greek word signifying to fix. The species have all bulbo-tubers, or corms, collateral, ensate leaves, and simple or branching stems, terminating in a dense spike of flowers. They are all tolerably hardy, and with a little care most of them may be grown in the open ground.

1.—IXIA MONADELPHA, *De la Roche.* THE MONADELPHOUS, OR ONE-ANTHERED IXIA.

SYNONYME.—*I. columnaris*, *Sal.*

ENGRAVINGS.—*Bot. Mag.* t. 607; *Bot. Rep.* t. 203; and our *fig.* 4, in Plate 18.

SPECIFIC CHARACTER.—Perianth with a straight narrow tube, and a stellately-spreading limb; segments lanceolate, obtuse. Spathe short. Stamens monadelphous. Leaves plicate.

DESCRIPTION, &c.—The bulb of this very beautiful species is rather flat, like that of some of the kinds of *Ferraria*. The stem is slender, and about a foot high, sometimes spreading into branches, and always with numerous flowers. There are generally three or four leaves, which are rolled up when they first appear, but which afterwards gradually unfold, though they are always narrow and grass-like. The segments of the perianth are of a firm texture, and vary very much in colour, though they have always a broad, strongly-marked ring in the centre of the flower. The stigmas are recurved, but the anthers stand erect; and it is from their growing together, so as to form a short thick column, that this species has received the name of *I. monadelpha*. This species is very handsome, as it generally produces from five to ten flowers; and as it flowers in April, it succeeds best (like all the early-flowering kinds) if planted in October, and kept in a frame, with a little bottom heat during winter (see p. 73). When planted in the open ground, it should be preserved from frost and violent rains by a hand-glass, which should be removed as soon as the plant begins to push vigorously in spring. This species was introduced in 1792.

2.—IXIA CURTA, *Andr.* THE SHORTENED IXIA.

SYNONYMES.—*I. monadelpha*  $\beta$ , *Ker.*; *Galaxia ixiaeflora*  $\beta$ , *Redouté*; Orange-coloured monadelphous *Ixia*.

ENGRAVINGS.—*Bot. Mag.* t. 1378; *Bot. Rep.* t. 554; *Redouté Liliacées*, t. 41.

SPECIFIC CHARACTER.—Perianth with a straight narrow tube, and a campanulate limb; segments obovate. Filaments monadelphous; anthers free. Spathe short. Leaves ensiform.

DESCRIPTION, &c.—A very showy species, with a short spike of large and handsome orange-coloured flowers. It was at first supposed to be a variety of *Ixia monadelpha*, but it differs from that species in the shortness of its



*1. Iris sibirica - 2. Iris sibirica - 3. Iris sibirica - 4. Iris sibirica - 5. Iris sibirica - 6. Iris sibirica - 7. Iris sibirica - 8. Iris sibirica - 9. Iris sibirica - 10. Iris sibirica*





spike of flowers, and in their shape, which is somewhat campanulate or bell-like, instead of being stellate or star-like. The exact year of its introduction is unknown, but it appears to have been figured for the first time about 1809. Its culture is the same as that of *I. monadelpha*.

### 3.—IXIA COLUMELLARIS, Ker. THE COLUMN-LIKE IXIA.

SYNONYMS.—*Ixia variegata*, Banks; variegated *Ixia*.

ENGRAVINGS.—Bot. Mag. t. 630; and our fig. 5, in Plate 18.

SPECIFIC CHARACTER.—Perianth with a straight narrow tube, and a

stellately-spreading limb; segments oblong. Spathe short. Stamens confluent, adhering together at the very base. Leaves narrow, ensiform.

DESCRIPTION, &c.—This species appears at first sight closely to resemble *I. monadelpha*, as it has a strongly marked band round the centre of the flower, and the anthers form a kind of column. On a closer examination, however, it will be found to differ in many essential particulars. The bulb or corm is round instead of being flat, and it is covered with strong rib-like fibres, reticulated between with others more slender. There are three or four leaves, which are not rolled up before their expansion; they are narrow and strongly nerved, but shorter than the stem. The flowers are as abundant as those of *I. monadelpha*, but much smaller, and they have the fragrance of the Tongo Bean. The flowers open about eight o'clock in the morning if the weather be fine and warm, and they close towards the middle of the day; opening and shutting in this manner several days before they fall, unless the season should be very hot and dry. The bulbs are generally planted in March or April, in the open ground, if the situation be warm and dry, and the soil tolerably light; or if in pots, in a compost of loam, peat, and sand. The plants flower in August, and if kept moderately and regularly watered they will continue producing a succession of flowers for two or three weeks. The species was introduced in 1790.

### 4.—IXIA CONICA, Sal. THE CONICAL IXIA.

SYNONYME.—*I. maculata* Thun.; *I. Milleri*, Berg.; *I. capitata*, Andr.; *Sisyrinchium africanum*, Old.; the Orange-coloured *Ixia*.

ENGRAVINGS.—Bot. Mag. t. 539; Bot. Rep. t. 50; and our fig. 2, in Plate 18.

SPECIFIC CHARACTER.—Perianth with a short narrow tube and a spreading limb; segments ovate. Anthers spreading. Spathe membranous, 2-valved; inner valve bifid. Leaves ensiform, and somewhat plicate.

DESCRIPTION, &c.—This beautiful species is said to be one of the most common in the neighbourhood of Cape Town, where it produces a very striking effect, from the singular habit of its flowers, which fold up the moment the sun withdraws its light, or is shaded by a passing cloud. The inside of the segments is a bright orange, but the outside is tinged with a rich crimson; so that when the flowers fold up they not only change their form but their colour, presenting, instead of handsome salver-shaped orange flowers, a multitude of small crimson cones, pointed at the summit, and swelling out at the base. It is from this peculiarity that the species is called *conica*. The flowers only expand in sunshine, but as they are very brilliant when they are expanded, and very numerous, the species is well deserving of cultivation. The plants should be grown in a mixture of very sandy loam and peat, and the bulbs may either be planted in the open ground in spring, in which case they will not flower till August, or in pots in September or October, and kept in a frame during the winter, in which case they will flower in June. The flowers of this species, contrary to those of most of the other kinds of *Ixia*, preserve their beauty when dried. This species was one of the first of the Cape bulbs brought to England, having been introduced so early as 1757.

5.—IXIA VIRIDIFLORA, *Sal.* THE GREEN-FLOWERED IXIA.

SYNONYMES.—*I. maculata*, *Murr.* ; *I. spectabilis*, *Sal.* ; *I. amena*, *Andr.* ; *I. abbreviata*, *Houtt.* ; *I. maculata*, *var. viridis*, *Ker.*

ENGRAVINGS.—*Bot. Mag.* t. 549 ; *Bot. Rep.* t. 29 ; and our *fig.* 3, in Plate 18.

SPECIFIC CHARACTER.—Perianth with a slender tube and a campanulately-spreading limb ; segments oblong-lanceolate. Stamens with short filaments, and very long anthers. Stigma short. Spathe membranous, short. Leaves ensiform.

DESCRIPTION, &c.—I think I never recollect being more charmed with a flower than I was when I saw this plant for the first time in the garden of the Messrs. Loddiges at Hackney. A row of bulbs of this species, which had been planted in a narrow border in front of one of the hothouses, were in full blossom, and the peculiar and delicate hue of their flowers struck me forcibly. I have since frequently seen this species (as it is very hardy, and flowers freely), but it has always been with renewed admiration. It is indeed quite impossible to give a just idea of these beautiful flowers on paper ; they must be seen growing to be properly appreciated.

The flower-stem varies from one to four feet in height, and it is frequently branched, containing from six to thirty flowers in a spike. The flowers have no fragrance, and the leaves are much shorter than the flower-stem. The species was first discovered by Thunberg, "flowering in October, by the sides of rivers and brooks, in the Roode-Zand (Red-sand) Valley, many days' journey from Cape Town," (*Bot. Mag.* vol. xxxi.), and it was introduced in 1780. The culture is very simple ; it only requires planting in the open air, in a dry and somewhat sheltered situation, in October, and protecting during severe winters from frost, and excessive wet.

6.—IXIA OCHROLEUCA, *G. Don.* THE CREAM-COLOURED IXIA.

SYNONYME.—*I. maculata*, *var. ochroleuca*, *Ker.*

ENGRAVINGS.—*Bot. Mag.* t. 1285 ; and our *fig.* 1, in Plate 18.

SPECIFIC CHARACTER.—Perianth with a long narrow tube, and cam-

panulate limb ; segments orbiculately-obovate. Filaments equal in length to the anthers. Stigmas fringed. Spathe short. Leaves broadly-ensiform, short.

DESCRIPTION, &c.—This species is remarkable for its large and handsome flowers, and its short, broad leaves. The colour of the flowers is a yellowish creamy hue, with a brown centre, and they are remarkable for their very long and slender tubes, and round campanulate limbs. The species was introduced from the Cape in 1809 by Messrs. Loddiges, to whom the floricultural world owe so many Cape bulbs, and its culture is the same as that of *I. monadelphæ*.

7.—IXIA ERECTA, *Ait.* THE ERECT IXIA.

SYNONYMES.—*I. e. albiflora*, *G. Don.* ; *I. polystachia*, *Lin.* ; *I. serotina*, *Sal.* ; *I. scillaris* *var.*, and *I. thyrsiflora*, *De la Roche.* ; *Ornithogalum spicatum*, *Pluk.*

VARIETIES.—*I. e. 2 incarnata*, *Andr.* ; *Bot. Rep.* t. 128. The flowers are flesh-coloured. *I. e. 3 lutea*, *Ker.* ; *Bot. Mag.* t. 846. The flowers are orange, with yellow stamens and stigmas.

ENGRAVING.—*Bot. Mag.* t. 623 ; *Bot. Rep.* t. 155.

SPECIFIC CHARACTER.—Perianth with a filiform tube, and campanulately spreading limb, segments oval. Stigmas free to the tube. Anthers longer than the filaments. Spathe short. Leaves ensiform.

DESCRIPTION, &c.—This very beautiful species has a long spike of white flowers, with a dark eye ; which, however, are without fragrance. It was found by Thunberg in sheltered valleys near Cape Town, and it was introduced before 1757, as it was cultivated in that year by Miller at Chelsea. It is very common, as it produces abundance of offsets, and if left in the soil in any tolerably warm and dry situation it will live many years without any care, flowering freely every June. It is very ornamental, and it is well deserving of a place in every flower-garden.



8.—IXIA ODORATA, *G. Don.* THE SWEET-SCENTED IXIA.SYNONYME.—*I. erecta*, *var. lutea odorata*, *Ker.*ENGRAVINGS.—*Bot. Mag.* t. 1173; and our *fig. 4*, in Plate 19.

SPECIFIC CHARACTER.—Perianth with a filiform tube, and a funnel-shaped limb; segments obovate, and concave. Spathe short. Stamens connivent. Leaves ensiform.

DESCRIPTION, &c.—A pretty species, with a rather short spike of bright yellow flowers. It was first supposed to be a variety of *I. erecta*; but it differs from that species, not only in the colour of its flowers and the shortness of their spike, but in their being fragrant, while the flowers of *I. erecta* are totally without scent. It is very common near the Cape of Good Hope, and a parcel of bulbs seldom arrives from that country without this species being included. It flowers freely in May and June, and requires the same treatment as the preceding species.

9.—IXIA RETUSA, *Jacq.* THE RETUSE-FLOWERED IXIA.SYNONYMES.—*I. polystachia*, *Ker.*; *I. scillaris var.*, *Houtt.*; Lily of the Valley-scented Ixia.ENGRAVINGS.—*Bot. Mag.* 629; *Bot. Rep.* t. 128.

SPECIFIC CHARACTER.—Perianth filiform, with a spreading limb; segments oblong. Anthers roundish, shorter than the filaments. Spathes short. Leaves ensiform.

DESCRIPTION, &c.—The flower-stem of this species is tall and slender, and the leaves long and grass-like. The flowers are of a bright rose-colour, with long pointed segments which are frequently recurved, whence the name. The flowers have the fragrance of those of the lily of the valley. The species is rather tender, and does best kept in a frame during winter. It should be planted in October, and it will flower in May. It was introduced in 1793.

10.—IXIA SCILLARIS, *Lin.* THE SQUILL-FLOWERED IXIA.SYNONYMES.—*I. s.*, *var. latifolia*, *Ker.*; *I. pentandra*, *Lin. fil.*; *I. retusa*, *Salis.*; *I. polystachia var.*, *Jacq.*; *I. reflexa*, *Andr.*ENGRAVINGS.—*Bot. Mag.* t. 542; *Bot. Rep.* t. 14.

SPECIFIC CHARACTER.—Perianth with a short filiform tube, and a subringent limb; segments obovate. Anthers shorter than the filaments. Spathe nearly as long as the tube. Leaves broad-ensiform, oblique at the base; somewhat plicate.

DESCRIPTION, &c.—The bulb of this species is about the size of a large pea, and quite smooth; the stem rises about a foot high, terminating in a spike of from ten to twenty very pretty small bright pink flowers, and the leaves, of which there are three or four, are short and broad. There are several varieties, or rather variations, as they are found to change according to the circumstances of soil and climate; in some of these the flowers are purplish, and in others nearly white; and one kind has narrow leaves, which is the most distinct, as its flowers are rather sweet, while those of the other kinds are entirely without scent. This species was introduced in 1787; and as it flowers very early (frequently in January), it should always be grown in a frame or greenhouse. It does best planted in September, and treated as directed for the *Tritonias* in p. 73; being removed from the frame to a greenhouse or sitting-room just before the expansion of the flowers.

11.—IXIA CRISPA, *Ker.* THE CURLED-LEAVED IXIA.SYNONYME.—*I. undulata*, *Burm.*ENGRAVINGS.—*Bot. Mag.* t. 599; and our *fig. 6*, in Plate 18.

SPECIFIC CHARACTER.—Perianth with a short filiform tube, and a

campanulately-spreading limb; segments obovate. Anthers shorter than the filaments. Spathe one-half as long as the tube. Leaves narrow, undulately-curved.

DESCRIPTION, &c.—The flowers of this species closely resemble those of the preceding kind in colour; but they are much less numerous, seldom exceeding three or four, and the leaves are very curiously crisped or curled.

There are varieties with white and bluish flowers. The species was found by Thunberg on the red sand hills near Picketberg, and it was introduced in 1787. The flowers are very pretty, but they have no fragrance; they appear in June. The plant, from its small size, is generally grown in a pot, the bulb being planted in March or April.

#### 12.—IXIA FUCATA, Ker. THE PAINTED IXIA.

ENGRAVING.—Bot. Mag. t. 1379.

SPECIFIC CHARACTER.—Perianth with a filiform tube, and a salver-shaped limb; segments elliptic, recurved, and shorter than the tube.

Stamens forming a compact column, with erect divergent anthers. Scape 2-flowered. Leaves long and narrow.

DESCRIPTION, &c.—The stem is about six inches long, and very slender. The leaves are very narrow, and somewhat twisted. The spike has only two flowers, the segments of which are white suffused with crimson, whence the specific name. Mr. Ker thinks it doubtful whether it is a genuine species, or a hybrid between *I. crateroides* and *I. capillaris*, as it appears to have been first observed in the Hammersmith nursery about the year 1800, and nothing is known respecting its introduction. It is now probably lost, as its name does not occur in any of the lists of bulbs usually cultivated.

#### 13.—IXIA ARISTATA, Ker. THE BRISTLY IXIA.

SYNONYMES.—*I. patens*, *Herb. Banks*; salver-flowered *Ixia*.

ENGRAVINGS.—Bot. Mag. t. 589; Bot. Rept. t. 87.

SPECIFIC CHARACTER.—Perianth with a long filiform tube; seg-

ments oblong, flat, rotate. Stamens free, erect, nearly equal in length to the style. Spathe short, and so deeply-toothed as to appear bristly. Scape many-flowered. Leaves broadly-ensiform.

DESCRIPTION, &c.—The stem of this species is generally divided into numerous short branches, each terminating in a head of flowers, which are pale pink, striated with pink of a much darker colour; or very dark purple. The flowers are without scent, and they appear in May. There are four broad, strongly-ribbed leaves; and the spathes are so deeply cut as to give them a bristly appearance, whence the name. The species was found by Thunberg in moist sandy places, near the Cape; and it is said in the Bot. Mag. to be so "impatient of drought," that it should be "set in a pan of water when near flowering." It was introduced in 1800.

#### 14.—IXIA MACULATA, Lin. THE SPOTTED IXIA.

SYNONYMES.—? *I. spectabilis*, *Salis*; ? *I. spicata*, *var. viridi-nigra*, *Andr.*

ENGRAVING.—Bot. Reg. t. 530.

SPECIFIC CHARACTER.—Perianth with a long filiform tube, and a

flat, spreading limb; segments oblong. Stamens free, spreading. Stigmas distinct and spreading at the base of the anthers. Scape many-flowered. Leaves linear-ensiform, numerous.

DESCRIPTION, &c.—A very beautiful species, the flowers of which are of a French grey colour, with a green spot at the base of each segment of the perianth. The spike of flowers is long and elegant, bearing more resemblance to that of *Ixia viridiflora* than any other species. Some botanists indeed make both kinds belong to the same species. It is also nearly allied to *I. erecta*. This *Ixia* is a native of the Cape, whence it has been frequently imported, having been as frequently lost. It does best grown in the open ground, and treated like *I. viridiflora* (see p. 82).



1. *Iris pinnatifida* 2. *Iris sibirica* 3. *Iris pinnatifida* 4. *Iris sibirica*





## 15.—IXIA FLEXUOSA, Ker. THE FLEXUOSE IXIA.

SYNONYMES.—*I. capitata*, Andr. ; *I. erecta*, var. *violacea*, Thun.

ENGRAVINGS.—Bot. Mag. t. 624 ; Bot. Rep. t. 232.

SPECIFIC CHARACTER.—Perianth with a short filiform tube, and campanulately spreading limb ; segments oval, oblong. Filaments

monadelphous. Anthers loose, and sometimes curved. Stigmas distinct, recurved. Spathe short, membranous, and commonly denticulate. Scape few-flowered. Flowers in a very short dense raceme. Leaves linear-ensiform.

DESCRIPTION, &c.—This species varies very much in the colour of its flowers, which are sometimes white, striped with pink, sometimes rose-coloured, and sometimes purple. The stem is very slender and flexible, whence the specific name ; and the flowers, which are fragrant, are disposed in a short dense raceme at its extremity. It is a well-known species, which has been in cultivation since 1757 ; and it is generally grown in pots (which may be kept in a cool frame or greenhouse during winter), as it flowers in April. It produces numerous offsets, which should be taken off in September.

## 16.—IXIA HYBRIDA, Ker. THE HYBRID IXIA.

SYNONYMES.—*Ixia flexuosa*, Lin.ENGRAVING.—Bot. Mag. t. 127 ; and our *fig. 3*, in Plate 19.

SPECIFIC CHARACTER.—Perianth with a very slender tube, and campanulately spreading limb ; segments obovate. Filaments monadel-

phous. Anthers loose, erect. Stigmas distinct, recurved. Spathe nearly the length of the tube, bidenticulate. Scape few-flowered. Flowers in an erect, loose raceme. Leaves linear-ensiform.

DESCRIPTION, &c.—This *Ixia* differs so very slightly from *I. flexuosa*, that it is probably only a variety of that species. The flowers are very pretty, and from not being so close together, they have a much lighter and more elegant appearance. The two kinds are frequently confused together, and both are sold under the name of *I. flexuosa*. The flowers are fragrant ; and as they appear in April or May, the plants should be grown in pots, and slightly protected during winter. Besides the ordinary protection from frost and excessive rains, care must be taken to preserve the corms from mice, which will devour them if possible.

## 17.—IXIA PATENS, Ker. THE SPREADING-FLOWERED IXIA.

SYNONYME.—*I. flaccida*, Sol. ; crimson *Ixia*.ENGRAVING.—Bot. Mag. t. 522 ; and our *fig. 1*, in Plate 19.

SPECIFIC CHARACTER.—Perianth with a short filiform tube, and a campanulately-spreading limb ; segments oblong, much longer than the

tube. Stamens free. Anthers erect. Stigmas recurved, rising as high as the anthers. Scape many-flowered. Leaves lanceolately-ensiform.

DESCRIPTION, &c.—A very splendid species, easily distinguished from the other kinds by the length of the segments of the limb, and their bright crimson-colour. It also differs from *I. flexuosa* in the breadth of the leaves, and in the flowers not being fragrant. This species was introduced in 1779, and is a very common one in gardens. It may either be planted in pots and kept in a cold frame, or in the open ground, with a very slight protection in the winter. The best soil is a yellow loam mixed with a little sand, but any common garden mould will do. When it is to stand in the open air, the bulb should be planted in October, and a hand-glass put over it, which should be raised for an hour or two in the middle of every fine day, and covered with a mat, or a few bundles of straw, during severe frosts. When the plants are thoroughly established, and have formed a mass of offsets, they may be safely left to themselves ; only covering them in very severe frosts with a heap of dead leaves. The effect of the plant when in flower is very brilliant. It flowers in April or May, and the flowers remain in perfection a long time, especially if shielded by a veranda, or in some other way from the excessive heat of the sun.

## 18.—IXIA CRATEROIDES, Ker. THE CUP-SHAPED IXIA.

SYNONYMES.—*I. speciosa*, Andr. ; *I. campanulata*, Herb. Banks.

ENGRAVINGS.—Bot. Mag. t. 594 ; Bot. Rep. t. 186 ; and our fig. 2, in Plate 19.

SPECIFIC CHARACTER.—Perianth with a very short tube, and a cup-

shaped, hemispherically-campanulate limb ; segments oval, erect. Stamens free, spreading. Stigmas recurved, and rising much above the anthers. Scape few-flowered. Leaves grass-like.

DESCRIPTION, &c.—The flowers of this species are very beautiful, from their brilliant colour and large size ; they are, however, not so numerous as those of most of the other species, as they seldom exceed two or three in each cluster. The stem is round and wiry, and it is from six inches to a foot high. There are five or six grass-like leaves to each bulb, smooth excepting a prominent midrib, and shorter than the stem. The stamens, instead of their filaments growing together, as in *I. flexuosa*, are widely apart ; and the stigmas, which are recurved, rise above the anthers. This species does not blossom so freely as most of the other kinds ; and the bulb, which is of a spongy succulent nature, is very apt to rot if allowed to become too wet. The species is a native of some sandy marshes near the Cape, whence it was introduced in 1800, and it is rather difficult to cultivate. It should be grown in pots, well drained, by being a third part filled with cinders, in pure sand ; and the pots should stand in a saucer of water. It flowers in July, but it does not blossom freely, and very often the bulbs send up only a mass of grass-like leaves, without any appearance of a flower-stem. It produces numerous offsets, but it very seldom ripens seed.

## OTHER SPECIES OF IXIA.

## I. LEUCANTHA, Pers.

The flowers are of a pure white. The species was introduced in 1779 ; and it flowers from May to October.

## I. FUSCO-CITRINA, Ræm. et Schultes.

The flowers are yellow and brown : neither the year of introduction nor the time of flowering are known ; and as it is only figured in the splendid work of Redouté, it may be a hybrid, originated in France.

## I. DUBIA, Ræm. et Schultes.

The flowers are purple and yellow, and as it is only figured by Redouté, it may also be a French hybrid.

## I. OVATA, Andr.

The flowers are white and purple. This species, which is figured in Andrews's Botanical Repository, t. 23, is quite different from the *Ixia ovata* of the Bot. Mag., which is now called *Galaxia*, (see p. 28).

## I. CAPITATA, var. Andr.

The flowers are white, with a very dark centre. This species is figured in the Bot. Rep. t. 159.

Besides the above, are several hybrids, which may be procured in the seed-shops, but have not been botanically described.



## GENUS XXVI.

MORPHIXIA, *Ker.* THE MORPHIXIA.*Lin. Syst.* TRIANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth salver-shaped, with a turbinate, rather angular tube, and a six-parted equal limb. Stamens 3. Anthers versatile, connivent. Ovarium trigonal, 3-celled, ovulæ numerous. Style filiform. Stigmas 3, narrow. Capsule oval, trigonal. Seeds numerous, rather globose.

DESCRIPTION, &c.—*Morphixia* is derived from two Greek words, signifying form and *Ixia*; and it is said to be applied to this genus, because the general form of its flowers is similar to that of the *Ixias*. The principal difference between the flowers of the two genera consists in the tube, which in *Ixia* is filiform or thread-like, and in *Morphixia* is turbinate or angular. The flowers are also smaller, fewer together, and not so handsome. The species are generally known in seed-shops by the general name of *Ixia capillaris*.

1.—MORPHIXIA LINEARIS, *Ker.* THE LINEAR MORPHIXIA.

SYNONYMES.—*Ixia linearis*, *Rœm. et Schultes*; *I. capillaris*, *var.* *gracillima*, *Bot. Mag.*; *Hyalis gracilis*, *Salis.*

ENGRAVINGS.—*Bot. Mag.* t. 570; and our *fig. 3*, in Plate 20.

SPECIFIC CHARACTER.—Spathe scariosa, striated with linear-oblong segments, or divisions. Leaves filiform. Stems slender one-flowered, flower drooping.

DESCRIPTION, &c.—The stem and leaves of this plant are remarkably slender, and the flower-stem bears only a single flower which is slightly drooping. The flowers have no scent. The species is a native of the Cape, whence it was introduced in 1796. It flowers in April, and it should be grown in a pot, and kept in a greenhouse, or cold frame, all the winter.

2.—MORPHIXIA CAPILLARIS, *Ker.* THE HAIR-LIKE MORPHIXIA.

SYNONYMES.—*I. capillaris*,  $\beta$  *stricta*, *Bot. Mag.*; *I. lancea*, *Jacq.*; *Hyalis latifolia*, *Salis*; the wire-stemmed *Ixia*.

ENGRAVINGS.—*Bot. Mag.* t. 617; and our *fig. 2*, in Plate 19.

SPECIFIC CHARACTER.—Spathe scariosa, striated with oblong segments. Scapes racemous, racemes loose. Leaves ensiform and striated. Flowers erect.

DESCRIPTION, &c.—This species differs from the last, in the flowers being much more numerous, and disposed in a branched raceme. They are also erect, and the filaments of the stamens are so closely pressed together as to appear monadelphous. The leaves are much broader and sword-shaped. This species was introduced from the Cape in 1774. It is much handsomer than the last; and it may be grown either in pots or in the open ground; protecting it during winter by a hand-glass, if it is planted out, or by keeping it in a cold frame, if it is grown in pots.

3.—MORPHIXIA AULICA, *Ker.* THE COURTLY MORPHIXIA.

SYNONYMES.—*Ixia capillaris*,  $\gamma$  *aulica*, *Bot. Mag.*; *I. aulica*, *Hort. Kew.*; *Hyalis aulica*, *Salis*; Rose-coloured *Ixia*.

ENGRAVINGS.—*Bot. Mag.* t. 1013; and our *fig. 1*, in Plate 20.

SPECIFIC CHARACTER.—Spathe scariosa and striated, ovate-acute segments shorter than the tube of the perianth. Stem leafy. Flowers spicate. Radical leaves broad, short, plicate.

DESCRIPTION, &c.—This is by far the most splendid plant belonging to the genus. The flowers, which are produced in a short spike, are of a brilliant rose-colour. The stem is much thicker and the leaves are short and broad, with a cartilaginous margin. The bulb-tube is large, and covered with a thick and strong fibrous network. The species was introduced in 1774; it flowers in April and May, and it requires the same treatment as the preceding species.

4.—MORPHIXIA INCARNATA, *Jacq.* THE FLESH-COLOURED MORPHIXIA.

SYNONYMES.—*Ixia capillaris*, var.  $\delta$  *incarnata*. *Ker*; *Sisyinchium*, sp. *Hort.*; flesh-coloured *Ixia*.

ENGRAVINGS.—*Bot. Mag.* t. 617, *fig.* 2; *Jacq. ic.* 2, t. 278.

SPECIFIC CHARACTER.—Spathe scariose, membranous, ribbed, and divided into five deeply cut, pointed segments. Tube of the perianth elongated, anthers connivent.

DESCRIPTION, &c.—A very handsome species from its large pink flowers, and their fringe-like spathes. The segments are frequently strongly veined with a somewhat darker colour. This species was introduced from the Cape in 1774, and flowers in April and May. Its culture is the same as that of *M. capillaris*.

## GENUS XXVII.

MELASPHÆRULA, *Ker.* THE MELASPHÆRULA.*Lin. Syst.* TRIANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth 6-pointed, equal, spreading, segments cuspidate. Stamens 3, subsecund. Anthers oblong, fixed by the base, conniving. Ovarium 3-celled. Style ascending. Stigmas

3, narrow, linear, recurved. Capsule chartaceous, turbinate globose, 3-lobed. Seeds few, subglobose.

DESCRIPTION, &c.—All the species have bulbo-tuberous rhizomas; collateral, ensate leaves, with round paniced stems. The leaves and branches are in threes. The flowers are secund, that is, all on one side of the branches. The spathes are 2-valved, the outer valve being herbaceous in the middle, and membranous on the margin. All the species are natives of the Cape. Professor De Candolle has named this genus *Diasia*. The name of *Melaspærula* is derived from two Greek words, signifying a black globe, and it alludes to the form and colour of certain small bulbs produced on the stem.

1.—MELASPHÆRULA INTERMEDIA, *G. Don.* THE INTERMEDIATE MELASPHÆRULA.

SYNONYMES.—*M. graminea*, *Bot. Mag.*; *Gladiolus gramineus*, *Thunb.*; *G. ramosus*, *Ray*; *Phalangium ramosum*, *Burm.*

ENGRAVINGS.—*Bot. Mag.* t. 615; and our *fig.* 6, in Plate 20.

SPECIFIC CHARACTER.—Perianth bilabiate campanulate, segments distinct, and each ending in a sharp bristly point. Leaves short, ensiform.

DESCRIPTION, &c.—A very remarkable plant with very slender branchlets, which quiver in every breeze like those of the trembling-grass, *Briza media*. The flowers have no scent, and are more curious than beautiful; and curious little bulbs are produced instead of them if the plant be kept in a very hot and dry place. The species is more tender than most of the other Cape bulbs, and it requires to be kept in a greenhouse, as it is very frequently injured by frost even in a cold pit. It was found by Thunberg on the Groenkloof hills, near the Cape, and it was introduced by Mr. Mason in 1787.

## OTHER SPECIES OF MELASPHÆRULA.

*M. VIRIDIFLORA*, *Swt.*

The flowers are white and brown, and the leaves resemble those of the *Iris*. It was introduced from the Cape in 1825, and it flowers in February. It should be grown in a pot, and kept in a warm greenhouse, or hotbed frame.



*Iris sibirica* L. — *Iris sibirica* L. — *Iris sibirica* L. —  
" *Iris sibirica* L. — *Iris sibirica* L. — *Iris sibirica* L. —  
" *Iris sibirica* L. — *Iris sibirica* L. — *Iris sibirica* L. —





M. GRAMINEA, *G. Don*; GLADIOLUS GRAMINEUS, *Jacq.*; DIASIA GRAMINIFOLIA, *Red. Lil. t. 163.*

The flowers are white and brown, and the leaves very long and grass-like. It was introduced in 1825, and it flowers in February. It requires the same treatment as the preceding species.

M. PARVIFLORA, *Lodd. Bot. Cab. t. 1444.*

A curious little plant with very small flowers, which are produced in February. It must be kept in a greenhouse, as it dies down to the root in summer, but begins to grow again in autumn. It does best in sandy peat.

## GENUS XXVIII.

### HESPERANTHA, *Ker.* THE EVENING FLOWER.

*Lin. Syst.* TRIANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth subcampanulate or tubular, with a 6-parted, regular, or sub-bilabiate limb. Segments callous at the base. Stamens 3, secund; anthers versatile. Ovary 3-celled, ovula numerous, 2 series in each cell. Style filiform; stigmas elongated, narrow, linear, reclinate. Capsule trigonal, torulose. Seeds numerous, many-sided.

DESCRIPTION, &c.—All the species have bulbo-tuberous rhizomas, and collateral sword-shaped leaves. The spathes are 2-valved. The flowers are disposed in loose spikes; they expand and are sweet-scented in the evening, but during the day they are closed and scentless; and hence the name of *Hesperantha*, which is literally “evening flower.” They are all natives of the Cape of Good Hope.

#### 1.—HESPERANTHA CINNAMOMEA, *Ait.* THE CINNAMON-COLOURED EVENING FLOWER.

SYNONYMES.—*Ixia cinnamomea*, *Thun.*; the curled-leaved Evening Flower.

ENGRAVING.—*Bot. Mag. t. 1054.*

SPECIFIC CHARACTER.—Perianth with a slender tube, and a rotately-spreading limb. Stigmas much shorter than the stamens. Leaves falcately ensiform, lower ones curling, and much undulated.

DESCRIPTION, &c.—This beautiful little plant receives its name of *cinnamomea* from the outside of the segments of its perianth being of a deep cinnamon colour, while the inner part is white. The flowers when open are very pretty and star-like, but they are closed during the day. They are also only fragrant at night, when their odour resembles that of the clove carnation. It was introduced from the Cape in 1787, and it flowers in May.

#### 2.—HESPERANTHA FALCATA, *Ait.* THE SICKLE-LEAVED EVENING FLOWER.

SYNONYMES.—*Ixia falcata*, *Linn.*; *I. cinnamomea*, *Andr.*

ENGRAVINGS.—*Bot. Mag. t. 566*; *Bot. Rep. t. 44*; and our *fig. 4*, in Plate 20.

SPECIFIC CHARACTER.—Perianth with a slender tube, and a sub-campanulate, spreading limb; segments oval, concave; stigmas longer than the stamens, prostrate, curved. Leaves broad, falcate.

DESCRIPTION, &c.—The plant is much larger in all its parts than the preceding species, and the alternate segments are of a rich brown on the outside, edged with golden yellow. The number of flowers varies from five to twenty, and when they expand, a little before sunset, they diffuse a delightful odour, like that of the honeysuckle. The stem is upright, and from six inches to a foot high, with numerous branches. There are three or four broad leaves, which curve outwardly like a sickle. The bulb is curiously covered with from ten

to fifteen coats or skins, which are all brown, and placed like scales one over another, so as to make the bulb look quite large, though it is really only about the size of a pea. This species was introduced in 1787. It was originally found by Thunberg on the hills near Cape Town, where it is much valued for its fragrance. It is called by the Dutch Avond-bloem, or Afternoon Flower; because when the weather is fair, it opens exactly at four o'clock in the afternoon; and if it does not open exactly at that hour, it is quite certain to rain. It is rather tender in England, where it should be grown in a very small pot, in peat. It does not produce so many offsets as most of the other species, and it is consequently more difficult to propagate.

### 3.—*HESPERANTHA GRAMINIFOLIA*, *G. Don.* THE GRASS-LEAVED *HESPERANTHA*.

SYNONYMES.—*H. pilosa*, var.  $\beta$ , *Bot. Mag.*; *Ixia pilosa*, var.  $\beta$ , *Linn.*

ENGRAVING.—*Bot. Mag.* t. 1254.

SPECIFIC CHARACTER.—Perianth with a short tube and a spreading limb; segments obovate, stamens about the same length as the stigmas. Leaves short, grass-like. Stem and leaves without hairs.

DESCRIPTION, &c.—A little insignificant plant, with few flowers on a slender stem, which differs from that of *H. pilosa* in being without hairs. The flowers are small, and nearly white; they expand in the evening and remain open till sunrise, diffusing a strong aromatic odour all the time they are expanded. It is a native of the Cape of Good Hope, whence it was imported in 1809. It flowers in autumn, and appears to succeed best when planted in April in the open ground, and taken up after it has done flowering, in autumn; or if left in the ground during winter, with the protection of a hand-glass during severe weather.

### 4.—*HESPERANTHA PILOSA*, *Ait.* THE HAIRY *HESPERANTHA*, OR EVENING FLOWER.

SYNONYMES.—*Ixia pilosa*, *Linn.*

ENGRAVINGS.—*Bot. Mag.* t. 1475; and our fig. 5, in Plate 20.

SPECIFIC CHARACTER.—Perianth with a rather long tube and a cam-

panulate spreading limb. Segments oblong. Filaments erect; anthers straight, shorter than the stigmas. Stigmas erect, divaricate. Leaves linear, and, as well as the stem, covered with pili.

DESCRIPTION, &c.—The flowers are few and small, and the alternate segments are slightly speckled on the back with a reddish-brown. Like all the other species of the genus, they are only fragrant at night, and then only when the atmosphere is warm and dry. The leaves are small and narrow; and they, as well as the stem, which is very long and slender, are covered with short hairs.

### 5.—*HESPERANTHA RADIATA*, *Ait.* THE RADIATED EVENING FLOWER.

SYNONYMES.—*Ixia radiata*, *Jacq.*; *I. fistulosa*, *Andr.*; *I. angusta*, *Willd.*; *I. linearis*, *Jacq.*; *Gladiolus recurvus*, *Thun.* Nodding-flowered *Ixia*.

ENGRAVINGS.—*Bot. Mag.* t. 573; *Bot. Rep.* t. 59.

SPECIFIC CHARACTER.—Perianth with a long, upright, recurved tube, and a campanulate-spreading limb. Segments lanceolate-oblong, acute, reflexed at night. Filaments dependent; anthers straight, shorter than the stigmas. Stigmas spreading, rather shorter than the segments. Leaves fistular.

DESCRIPTION, &c.—This is the handsomest species of the genus. The flowers are large, and when they expand at night, the segments become so decidedly reflexed, that the stamens and stigmas project beyond them. The alternate segments are delicately veined with brown on the outside. The stem is round, and the leaves are fistulous,—that is, hollow. The flower-stem is erect, but jointed; and the flowers, which are from eight to twenty, though they grow on opposite sides of the stem, all twist to the same side before they expand. The species is a native of the Cape, whence it was introduced about 1800. It flowers in April and May; and it is generally grown in peat earth in a pot, and kept in a greenhouse during winter, as it is easily injured by continued rains.



6.—*HESPERANTHA ANGUSTIFOLIA*, Ker. THE NARROW-LEAVED EVENING FLOWER.

SYNONYMES.—*H. radiata*, var.  $\gamma$  *caricina*, *Bot. Mag.*; ? *Ixia angusat*, *Jacq.* The Sedge-leaved *Hesperantha*.  
 ENGRAVING.—*Bot. Mag.* t. 790.

SPECIFIC CHARACTER.—Perianth with a short tube and spreading limb; segments oblong, reflexed at night. Spathes adpressed. Scape hair-like. Leaves short, and extremely narrow.

DESCRIPTION, &c.—The flowers resemble those of the last species, but they are produced on a very slender hair-like stem, and with very small and narrow leaves. It was introduced in 1804; and having been lost, was again sent to this country in 1825.

## GENUS XXIX.

*GEISSORHIZA*, Ker. TILE-ROOT.

*Lin. Syst.* TRIANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth funnel-shaped, with a short tube, and an ample 6-parted limb; segments nearly equal, erect, and furnished each with a nectariferous pore at the base. Stamens 3, nearly erect; anthers linear, fixed by their bases. Ovarium bluntly trigonal,

3-celled; ovula numerous, two series in each cell. Style declinate; stigmas 3, cuneate-linear, with somewhat fringed edges. Capsule membranous, prismatically trigonal, 3-celled, 3-valved.

DESCRIPTION, &c.—Some of the species of this genus are natives of the Cape, but some come from Abyssinia. They are all remarkable for their bulbo-tubers, or rhizomas, which resemble fleshy stems, and are covered with several crustaceous or scarious skins or tunics, which lie over each other, like scales, or the tiles of a house, beginning from below. It is from this peculiarity that the plants take their English name of Tile-root. They have but four leaves, all of which spring from the root, and are narrow and bristly, sometimes partially dilating into the form called sword-shaped: they are also usually strongly nerved. The stems are simple or branched, and generally flexible. The flowers, when more than one, are always produced all on the same side of the branches; they are rather large, and each is sessile within a 2-valved spathe.

1.—*GEISSORHIZA ROCHEANA*, G. Don. LA ROCHE'S TILE-ROOT.

SYNONYMES.—*Ixia Rochensis*, Ker; *I. azurea* and *I. violacea*, *Herb. Banks.*; *I. secunda*, *Houtt.*; *Plaid Ixia*.

ENGRAVINGS.—*Bot. Mag.* t. 598; and our *fig. 3*, in Plate 21.

SPECIFIC CHARACTER.—Segments of the perianth lanceolate, spreading.

Spathe large, striated, convolute-oval. Stamens erect, slightly spreading at top; anthers small, sagittate-ovate. Style long, stigmas recurved over the anthers. Leaves bristly, striated, and sheathing at the base. Scape filiform, one-flowered.

DESCRIPTION, &c.—This curious little plant was formerly well known in gardens under the name of the *Plaid Ixia*. It was introduced in 1790; and Mr. Ker named it in compliment to Dr. De la Roche, the author of a work on the Cape Bulbs, published in Holland in 1766. The plant is so small, and the flower-stem so weak, that the bulb is generally grown in a pot, being planted in September or October, and kept in a frame or greenhouse during winter. It flowers in May; and a row of pots filled with it have a very agreeable and yet singular effect in a box placed in a window or balcony.

2.—GEISSORHIZA SETACEA, *Ker.* THE BRISTLY-LEAVED TILE-ROOT.

SYNONYMS.—*Ixia setacea*, *Thunb.*; *I. radicans*, *Vahl.*; Narrowest-leaved Tile-root.

ENGRAVINGS.—*Bot. Mag.* t. 1255; and our *fig.* 6, in Plate 21.

SPECIFIC CHARACTER.—Perianth turbinate-campanulate; tube much

shorter than the limb; segments lanceolate-oblong, sub-unguiculate. Stamens erect, anthers one-half shorter than the filaments. Style longer than the stamens. Spathe somewhat ventricose. Scape few-flowered. Leaves slender and bristly, or ensiform.

DESCRIPTION, &c.—The whole plant is larger and stronger than the Plaid Tile-root; but the flowers are less showy, and they are without scent. The bulb is very small, and the leaves vary from long bristly threads to half an inch or more broad. The flower-stem also varies very much, being sometimes not more than an inch long, and sometimes eight or ten inches. The flowers, however, are always the same, and by them the species may be always easily recognized. It flowers in June and July. It was introduced about 1809; and though much larger than the Plaid Tile-root, it is yet generally too small to look well in the open ground.

3.—GEISSORHIZA OBTUSATA, *Ker.* THE OBTUSE-LEAVED TILE-ROOT.

SYNONYMS.—*Ixia obtusata*, *Soland.*; Yellow-flowered Tile-root.

ENGRAVINGS.—*Bot. Mag.* t. 672; and our *fig.* 2, in Plate 21.

SPECIFIC CHARACTER.—Perianth turbinate campanulate; segments unguiculate-oblong, acute, alternate ones broader than the others.

Style much longer than the stamens. Stigmas recurved; anthers large, linear-sagittate. Scape many-flowered. Spathe small, dentated. Leaves obtusely ensiform.

DESCRIPTION, &c.—A very handsome species, from the abundance and large size of its flowers. The bulb is ovate, and covered with hard imbricated shell-like tunics. The leaves are rather broad and stiff; the stem is erect, and stronger than in the other species. There are generally six or eight flowers, which are of a rich cream colour, streaked with pink on the outside. The flowers have no scent. This species was introduced in 1801, and it flowers in May. It may be grown in a warm border sloping to the south, provided the soil be a yellow loam mixed with a little sand, and the plants be protected in frosty or very rainy weather by a hand-glass, or by a little litter or dead leaves being spread over them. This species may be easily procured in the London seed-shops.

4.—GEISSORHIZA VAGINATA, *Swt.* THE SHEATHED TILE-ROOT.

ENGRAVINGS.—*Swt. Brit. Flow. Gard.* t. 138; and our *fig.* 1, in Plate 21.

SPECIFIC CHARACTER.—Tube of the perianth very short; segments

spreading. Style shorter than the tube. Spathe 2-valved, outer valve leaf-like. Scape sub-racemose, few-flowered. Leaves falcate, acutely ensiform, plicately nerved, fistulous, sheathing at the base.

DESCRIPTION, &c.—This showy species is nearly allied to *G. obtusata*; but it differs in the colour of the flowers, and in the hollow glaucous leaves which curiously sheath the stem. The bulb is flatter than that of the preceding species; but the leaves are the most remarkable, and it is they which give the name to the species, as the flower-stem appears to grow out of them as though out of a sheath. The outer valve of the spathe strongly resembles a leaf. The style is very short; and the stigmas, which are slightly fringed, curl over the base of the anthers.

This species was brought to England in 1825, by Mr. Synnot, a gentleman who resided several years at the Cape of Good Hope, and who had therefore a good opportunity of collecting the most ornamental species. It was this gentleman that the genus *Synnotia* was named in honour of. This species does not flower till August or September; and it does best in the open air, if slightly protected during winter. A very good mode of growing these plants is to dig out a pit in a warm border in front of a south wall, about two or four feet deep, according



*Stipa capensis* (L.) Link. *Stipa capensis* (L.) Link. *Stipa capensis* (L.) Link.  
*Stipa capensis* (L.) Link. *Stipa capensis* (L.) Link. *Stipa capensis* (L.) Link.  
*Stipa capensis* (L.) Link.





to the nature of the soil, a stiff clay requiring the deepest pit. A layer or two of stones or rubbish should be put in the bottom of the pit, and the remainder filled with a compost of one third of yellow loam mixed with one-third of sand and one-third of peat: these proportions are given to form a general idea of the compost, but the loam may predominate; and when the sub-soil is sandy or gravelly, a compost of two-thirds of loam and one of sand will do without any peat. The surface of the bed should be raised a little higher than the rest of the garden, and it should slope towards the walk. In this bed the bulbs should be planted in rows, and the effect will be splendid.

#### 5.—GEISSORHIZA SECUNDA, Ker. THE SINGLE-ROWED TILE-ROOT.

SYNONYMES.—*Ixia secunda*, Thunb.; *I. pusilla*, Andr.; One-ranked *Ixia*.

ENGRAVINGS.—Bot. Mag. t. 597; Bot. Rep. t. 245; and our fig. 4, in Plate 21.

VARIETY.—*G. S. 2. albescens*, Ker, Bot. Mag. t. 1105.

SPECIFIC CHARACTER.—Tube of the perianth short, with a rotately-spreading limb; segments oval, acute, equal, flat. Filaments shorter than the anthers. Stigmas sub-revolute, longer than the stamens. Flowers secund. Scape villous, sometimes branched. Leaves naked, linear-ensiform, lower ones sheathing the stem at their base.

DESCRIPTION, &c.—The bulb is ovate, pointed, and about the size of a pea. The leaves are narrow, very stiff and sharply pointed, and with a prominent mid-rib. The stem is six or eight inches high, covered with very short velvet-like hairs, and bending abruptly at the joints whence the flowers proceed. The flowers are one-ranked or secund—that is, they all spring from the same side of the flower-stem or scape; but from its twisting and the abruptness of its bends, the flowers have the appearance of being from the alternate sides of the scape. It was found by Thunberg on the red sand-hills near the Cape, and in its native state it has always been found growing in pure red sand. It was introduced in 1795; but it is rather difficult to keep, as the bulbs are very apt to rot if kept too moist. For this reason it is generally grown in a pot, and kept under glass during winter. It flowers in May or June. The variety, which has pure white flowers, was introduced in 1805, and requires the same treatment as the species.

#### 6.—GEISSORHIZA EXCISA, Ker. THE CUT-LEAVED TILE-ROOT.

SYNONYMES.—*Ixia excisa*, Thunb.; *I. ovata*, Burm.; Dwarf *Ixia*.

ENGRAVINGS.—Bot. Mag. t. 584; and our fig. 5, in Plate 21.

SPECIFIC CHARACTER.—Tube of the perianth obsoletely triquetral, with a rotately-spreading limb. Segments oblong-oval, slightly pointed,

somewhat concave. Filaments erect, longer than the anthers, distinct, but not spreading, forming a kind of open-work column. Anthers upright, sagittate. Style longer than the stamens; stigmas revolute, and somewhat fringed. Leaves short, and excised towards the base.

DESCRIPTION, &c.—This very distinct species is remarkable for the fleshy tube of its flowers, its curiously bent stem, and its leathery leaves, which look as though a piece had been stamped out of them near the base; whence the name of the species. The stem is so much bent, or kneed, as it is called, that the flowers springing from its joints look as though they had each separate stems, the one growing out of the base of the other. The leaves are very smooth, and somewhat shining; and the flowers, though small, are pretty. They appear in April or May, and open about eight in the morning when the sun shines, only continuing expanded while exposed to the rays of that luminary. They have no fragrance. The plants, from their small size, and the succulent nature of their leaves and flowers, are generally grown in pots, and kept in a greenhouse; as they do not look well far from the eye, and are besides easily affected by frost. The species was brought from the Cape in 1789; and it is sold in the seed-shops under the name of *Ixia excisa*.

## OTHER SPECIES OF GEISSORHIZA.

The following species are said to have been introduced, but we do not know where they are now to be met with.

*G. HUMILIS*, *Jacq.*

A dwarf plant, with striped blush-coloured flowers; introduced in 1822.

*G. ERECTA*, *W. Herb.*

Striped blush-flowers; introduced in 1824.

*G. IMBRICATA*, *Ker.*

Striped red flowers; year of introduction unknown.

*G. HIRTA*, *Ker.*

Pale blue flowers, and hairy stem.

*G. CILIARIS*, *Sal.*; *G. INFLEXA*, *Jacq.*; *IXIA INFLEXA*, *De la Roche*; FRINGED TILE-ROOT.

This species is common in Germany and in Holland; and it is said to have been introduced into England, but the year of its introduction is not known.

*G. SUBLUTEA*, *Ker*; *IXIA SUBLUTEA*, *Lam.*

Flowers are yellowish; introduced in 1825.

*G. MONANTHA*, *G. Don*; *IXIA MONANTHA*, *Houtt.*; ONE-FLOWERED TILE-ROOT.

Nearly allied to the Plaid Tile-root, but differing in the flowers being blue, and all of the same colour.

## GENUS XXX.

STREPTANTHERA, *Swt.* THE STREPTANTHERA.

*Lin. Syst.* TRIANDRIA MONOGYNIA.

GENERIC CHARACTER.—Spathe 2-valved, obtuse, dry, a little lacerated. style. Stigmas 3, dilated, 2-lobed, fringed. Capsule triquetrous, Perianth 6-parted, with a short tube and a regular rotate limb. 3-furrowed, many-seeded. Seeds globose, smooth. Stamens 3; filaments erect; anthers twisted, and enclosing the

DESCRIPTION, &c.—This is a very distinct genus, from the peculiarity of the anthers being twisted round the style, in which respect it differs from all the other Cape Iridaceæ. The stigma is two-lobed, dilated, and spreading like that of the Irises, and the general appearance of the flower resembles that of the *Ixias*; while the striped, membranous lacinated spathe and fan-like leaves rising from the base of the flower-scape, show its relation to the *Synnotias*. The name *Streptanthera* signifies “twisted anther.” There are only two species of the genus known; and both are natives of the interior of South Africa, near the Cape.

1.—STREPTANTHERA ELEGANS, *Swt.* THE ELEGANT STREPTANTHERA.

ENGRAVINGS.—*Swt. Brit. Flow. Gard.* t. 209; and our *fig. 5*, in Plate 22. Leaves ensiform, bluntish, sheathed, cut in the middle. Scape 1-2 flowered.

SPECIFIC CHARACTER.—Segments of the perianth broad-ovate.

DESCRIPTION, &c.—One of the most beautiful of the Cape Iridaceæ, from its large white *Ixia*-like flowers, each segment of which has at its base a rich velvet-like spot of purple, reddish brown, and gold. The plant grows



about six inches high, with a fan-like tuft of leaves at the base of the flower-stem; these leaves are of a pale glaucous green, and each ends in a short stiff point. The perianth is salver-shaped, with a very short slender tube, and the segments are broadly ovate. There are three stamens, which are inserted in the mouth of the tube, the filaments of which are red, and the anthers dark purple. The stigmas are three, each two-lobed, very much dilated and fringed, and of a bright purple. The seeds are smooth and round. This very beautiful plant was introduced from the interior of the Cape by Mr. Synnot in 1825; and, like all the bulbs from the interior, it requires a much more loamy soil than those species that are natives of the sandy plains near the sea-coast. It is very nearly hardy; and it may be suffered to remain in the ground several years without taking up, if it is protected during severe weather by a mat, or any other slight covering. Both this and the following species flower in May and June.

## 2.—STREPTANTHERA CUPREA, *Swt.* THE COPPER-COLOURED STEPTANTHERA.

ENGRAVING.—Brit. Flow. Gard. 2nd Ser. t. 122.

SPECIFIC CHARACTER.—Segments of the perianth ovate, obtuse,

carinated. Leaves ensiform, acute, striated, cut in the middle. Scape 2-4 flowered.

DESCRIPTION, &c.—This species differs very little from the last, except in colour, and in the circumstance of the corm throwing up two flowers instead of one. Both species are admirably adapted, from their dwarf stature and profusion of splendid flowers, for pots and boxes in a balcony, or under a veranda; they are also well adapted for window-gardening, and for beds in a geometric flower-garden. In the latter case, however, it would be requisite to grow them in pots; in order to take up the pots as soon as the plants had done flowering, to remove them to a reserve ground where they might mature their leaves and form their new bulbs, as otherwise the leaves would have an unsuitable appearance in a formal garden. All the dwarf bulbs which flower in May and June may be treated in the same manner; and when they have done flowering, their places may be supplied by annuals, raised in pots, and turned out into the beds, with their balls of earth entire.

## GENUS XXXI.

### SPATALANTHUS, *Swt.* THE RIBBON-FLOWER.

*Lin. Syst.* MONANDRIA TRIANDRIA.

GENERIC CHARACTER.—Spathe stiff, terminal, one-flowered, two-valved; valves convolute, entire. Perianth spreading, with a very short tube and a six-parted regular limb. Stamens three; filaments short,

combined into a tube; anthers oblong, sagittate. Ovary roundish, warted at the top; stigmas three, flat, bifurcate at the apex.

DESCRIPTION, &c.—This species has a roundish, ovate bulbo-tuber, obliquely depressed at the base, covered with coriaceous scales, and emitting thick fusiform tuberous roots at the base. The leaves are numerous, filiform, somewhat clavate at the apex and acute, dilated and sheathing at the base. The scapes are one-flowered, and shorter than the leaves. The flowers are red, striated, and variegated in a stellate manner; whence the generic name of Ribbon-flower. There is only one species.

1.—SPATALANTHUS SPECIOSUS, *Swt.* THE BEAUTIFUL RIBBON-FLOWER.SYNONYME.—*Trichonema monadelphum*, *Swt.*ENGRAVINGS.—*Swt. Brit. Flow. Gard.* t. 300; and our *fig. 1*, in Plate 22.

SPECIFIC CHARACTER.—Segments of the perianth ovate-lanceolate, acute. Leaves striated.

DESCRIPTION, &c.—A very splendid plant, producing abundance of bright red flowers, marked with a star of yellow and black in the centre. The corm is nearly flat, and covered with a shelly fibrous net-work; and the leaves and stems spring up together, forming a thick mass at the base; round which the flowers, which are on very short stalks, form a cluster of brilliant fiery stars. The leaves are very curious, being excessively dilated at the base, and tapering upwards for about an inch, after which they become abruptly filiform, and needle-shaped. They are quite erect, and from four to six inches long. The texture of the flowers is very remarkable, the petals being almost transparent, and streaked on the outside with from three to five longitudinal straw-coloured stripes, which shine through the coppery red that forms the inside of the flower. This species is very rare even at the Cape of Good Hope; and though it was introduced in 1829, it appears to be now lost. It is, however, so very beautiful, that it well deserves to be re-introduced, and brought into general cultivation. It appears tolerably hardy, and would no doubt succeed in the open border if kept dry, and free from frost during winter. The soil should be a compost formed of light turfy loam and sand, with a little peat.

## GENUS XXXII.

TRICHONEMA, *Ker.* THE TRICHONEMA.*Lin. Syst.* MONOGYNIA TRIANDRIA.

GENERIC CHARACTER.—Perianth funnel-shaped, with a short tube, and a 6-parted, equal, spreading limb. Stamens three, enclosed; anthers fixed by their bases, oblong. Ovary bluntly trigonal, 3-celled, ovula numerous, two series in each cell, ascending. Style filiform. Stigmas 3, linear, bipartite, recurved. Capsule membranous, gibbously 3-lobed, 3-celled, 3-valved. Seeds numerous.

DESCRIPTION, &c.—The species of *Trichonema* are not only natives of the Cape of Good Hope, but also of the shores of the Mediterranean. They are small and slender plants, with very slender and somewhat quadrangular leaves, and bulbo-tuberous rhizomas. The flowers are solitary on the scapes; each being produced within a two-valved spathe. The genus *Spatalanthus* differs from *Trichonema* in having monadelphous stamens, and very different stigmas. The name *Trichonema* is derived from two Greek words, *Thrix* hair, and *nema* a filament.

1.—TRICHONEMA BULBOCODIUM, *Ker.* THE HOOP-PETTICOAT NARCISSUS-LEAVED TRICHONEMA.SYNONYMS.—*Ixia Bulbocodium*, *Linn.*; *Crocus vernus angustifolius*, *Chus.*; *Crocus-leaved Ixia*.ENGRAVINGS.—*Bot. Mag.* t. 265; and our *fig. 4*, in Plate 22.

SPECIFIC CHARACTER.—Perianth with a straight filiform tube, and a campanulately spreading limb; segments lanceolate, acute. Leaves filiform.

DESCRIPTION, &c.—A little crocus-looking plant, with slender leaves and purplish flowers. It is quite hardy; and as it grows wild in Spain and Italy, it requires no particular care in England. It is very often attacked by insects, which destroy the bulbs; and it does best in an open situation exposed to the sun and some-



*Iris sibirica* (L.) Steud. *Iris sibirica* (L.) Steud. *Iris sibirica* (L.) Steud.  
*Iris sibirica* (L.) Steud. *Iris sibirica* (L.) Steud. *Iris sibirica* (L.) Steud.  
 J. H. R. 1875





what hilly. It flowers about the middle of April; and a bed of it, planted like a bed of crocuses, looks exceedingly well. It is increased by offsets, which it produces in great abundance; and it has been in cultivation in British gardens ever since the year 1739. Bulbs may be had in all the seed-shops, and they should be planted in September or October.

## 2.—TRICHONEMA ROSEUM, Ker. THE ROSE-COLOURED TRICHONEMA.

SYNONYMES.—*Ixia rosea*, *Lin.*; *I. campanulata*, *Lam.*; *I. recurva*, *Red.*; *I. bulbocoides*, *De la Roche*; *Crocus triflorus*, *Burm.*  
 ENGRAVINGS.—*Bot. Mag.* t. 1225; and our *fig.* 3, in Plate 22.

SPECIFIC CHARACTER.—Perianth with a very short tube, and a rotately-spreading limb; segments oval, acute. Leaves filiform, very long.

DESCRIPTION, &c.—A very pretty little plant with dark crimson flowers, and very long grass-like leaves. Like all the *Trichonemas*, it has long hair-like stigmas projecting over the anthers, but they are shorter than those of *T. Bulbocodium*. The habits of the two plants are also very different; for *T. Bulbocodium* grows luxuriantly in the open ground, flowering in April; while *T. roseum* requires the protection of a greenhouse, and does not flower till June or July. This last species is a native of the Cape, and was introduced about 1809. The bulbs may be bought in the seed-shops, and should be planted either in October or February.

## 3.—TRICHONEMA SPECIOSUM, Ker. THE BEAUTIFUL TRICHONEMA.

SYNONYMES.—*Ixia Bulbocodium*, *var. speciosa*, *Andr.*; *Crimson Trichonema*.  
 ENGRAVINGS.—*Bot. Mag.* t. 1476; *Bot. Rep.* t. 170; and our *fig.* 2, in Plate 22.

SPECIFIC CHARACTER.—Perianth with an obsolete tube, and a campanulately-spreading limb; segments oblong-lanceolate. Leaves filiform, very long.

DESCRIPTION, &c.—A delicate little plant, with a very small bulb and very long slender leaves, which are from a foot to eighteen inches long. These leaves are curiously formed, as they are divided into four furrows; but the sides of the furrows close together, so as to give the leaf the appearance of being quite round. The flowers are of a bright carmine colour, and beautiful in themselves; but they do not produce so good an effect as those of some of the other species, from being few in number, and produced on weak and very slender stalks, which appear to require support. The species is a native of the Cape, whence it was introduced in 1808. It requires a greenhouse in England, and it should be grown in sandy loam and peat. The species flowers in March, and the bulbs should be planted in October.

## 4.—TRICHONEMA PUDICUM, Ker. THE BLUSHING TRICHONEMA.

SYNONYMES.—*Ixia pudica*, *Soland.*; *Blush Trichonema*.

ENGRAVING.—*Bot. Mag.* t. 1244.

SPECIFIC CHARACTER.—Perianth with a nearly obsolete tube, and a

campanulate, recurvedly-spreading limb; segments obovate-lanceolate  
 Cauline leaves dilated and sheathing at the base, and curiously folded at the extremity, so as to appear linear-lanceolate.

DESCRIPTION, &c.—This species differs from the others in the segments of the perianth being recurved, and in the remarkable formation of the stem leaves, which are greatly dilated and sheath the stem at their base, while they are folded together so as to be quite slender and lanceolate towards the extremity. The segments of the perianth are pink, with a white ring stained with six black marks in the centre of the flower. The plant grows three or four inches high: the bulbs are very small, and each produces three or four leaves and two or three scentless flowers. The species is a native of the Cape, and it was introduced in 1809.

5.—TRICHONEMA LONGIFOLIUM, *Sal.* THE LONG-LEAVED TRICHONEMA.

SYNONYMES.—*T. cruciatum*, *Ker*, not *Jacq.*; channel-leaved *Trichonema*.

ENGRAVING.—*Bot. Mag.* t. 575.

SPECIFIC CHARACTER.—Segments of the perianth lanceolate-acute, recurvedly-spreading. Scape 1-flowered. Leaves linear, much longer than the scape.

DESCRIPTION, &c.—A curious plant, with little star-like red flowers and extremely long leaves; which, however, do not show themselves above ground until the flower has expanded. Mr. Ker, when describing this species in the *Bot. Mag.*, supposed it to be the same as Jacquin's *T. cruciatum*; but other botanists have found it to be quite different from that species, a section of the leaf of which forms a Greek cross. There are several varieties of *T. longifolium*, only differing in the colour of their flowers, which vary from a dark reddish purple, or crimson, to a pale pink. The species is a native of the plains near Cape Town; it was introduced about the year 1800, and it flowers in May.

6.—TRICHONEMA CAULESCENS, *Ker.* THE STEMMED TRICHONEMA.

SYNONYMES.—*IXIA bulbocodioides*, *De la Roche*; *I. rosea*, *var. aureis*, *Herb. Banks.*

ENGRAVING.—*Bot. Mag.* t. 1392.

SPECIFIC CHARACTER.—Perianth with a rotately-spreading limb; segments lanceolate. Radical leaves fistular, and sheathing the stem; cauline leaves very short.

DESCRIPTION, &c.—This species differs from the others in the stem acquiring its full growth above ground before the flower has expanded, and developing its leaves; while in most of the other species only the leafless peduncle or flower-stalk is seen above the ground till the fruit begins to ripen, as in the genus *Crocus*. The flower is of a bright metallic yellow, and shines like a little star among the dark green leaves. The bulbs are very small; and as the flowers are small also, three or four should be planted in each pot to produce any effect.

## OTHER SPECIES OF TRICHONEMA.

*T. PURPURASCENS*, *G. Don*; *IXIA PURPURASCENS*, *Tenore*.

A native of Naples, with purple flowers, introduced in 1825.

*T. COLUMNÆ*, *Tenore*.

Pretty flowers of straw-colour and lilac, supposed to be a hybrid, raised in Italy. Year of introduction unknown.

*T. RAMIFLORUM*, *G. Don*; *IXIA RAMIFLORA*, *Tenore*.

A handsome Italian species with purple flowers, produced on the branches of the stem; introduced in 1830. It flowers in May and June.

*T. CŒLESTINUM*, *G. Don*; *IXIA CŒLESTINA*, *Pursh*.

A North American species, introduced in 1820, with blue flowers, flowering in March and April.

*T. CRUCIATUM*, *Jacq.*

This species is quite distinct from the *T. cruciatum* of the *Bot. Mag.* (See *T. LONGIFOLIUM*, No. 5). It has rose-coloured flowers, which are produced in May and June; and it is a native of the Cape, whence it was introduced in 1758.



*T. FILIFOLIUM, Jacq.*

A species with yellow flowers and long slender leaves ; introduced from the Cape of Good Hope in 1812.

*T. RECURVIFOLIUM, Jacq.*

The flowers are straw-coloured, and the plant is a native of the Cape, whence it was brought in 1812.

*T. TORTUOSUM, Jacq.*

This species is more curious than beautiful, as it takes its name from its twisted and unhealthy-looking leaves. It has yellow flowers, and it was introduced in 1822.

*T. CHLOROLEUCUM, Ker.*

The flowers are of a greenish white, and are produced in June and July. It is a native of the Cape, and it was introduced in 1825.

## GENUS XXXIII.

CROCUS, *Tournefort.* THE CROCUS.*Lin. Syst.* TRIANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth funnel-shaped, with an elongated tube, and an erectly-spreading 6-parted limb ; the inner segments rather the smallest. Stamens three, erect, inclosed. Anthers numerous, ascending, two series in each cell. Style elongated. Stigmas ciliated, cuneate, fleshy, cucullate, and denticulate at their apices. Capsule membranous, trigonal, 3-celled, 3-valved. Seeds numerous, sagittate, fixed by their bases. Ovary bluntly trigonal. Ovula sub-globose, each with a coriaceous, rather fleshy testa.

DESCRIPTION, &c.—The Crocus may be described as a stemless herb, proceeding from a solid bulb or corm, with narrow linear leaves, and large showy flowers, which proceed directly from the corm, and appear before the leaves. They are natives of Europe and Middle Asia ; but none have yet been found at the Cape of Good Hope, or in America, or Australia. Though every one at all fond of flowers must know that there are several kinds of Crocuses, very few have any idea that there are above ninety named species and varieties, all of which are sufficiently distinct to be easily distinguished. Of course it would be impossible in a work like the present to describe all these, and I shall, therefore, content myself with giving those species which appear perfectly distinct, and a few of the more remarkable of the varieties.

All kinds of Crocus may be classed in two grand divisions, viz. : those that flower in spring, and those that flower in autumn ; and this division was made by Linnæus as far back as 1737,—though he considered all the kinds as only varieties of one species, which he called *C. sativus*. Willdenow, in his edition of the “Species Plantarum,” published in 1797, divided the Crocuses into two species—the autumnal one, *C. sativus*, and the spring one, *C. vernalis*—and from these, all the others have arisen. The Crocuses now cultivated in gardens were first collected by the late Mr. Sabine in 1818, and a detailed account of them will be found in the Hort. Trans. for 1829. All the kinds of Crocus are hardy, and they all grow freely in common soil.

## SPRING CROCUSES.

### 1.—CROCUS VERNUS. *Lin.* THE PURPLE SPRING CROCUS.

VARIETIES.—C. v. 2, *plumbens*, *Sab.*; C. v. 3, *albus major*, *Sab.*; C. v. 4, *leucorhynchus*, *Sab.*; C. v. 5, *inflatus*, *Sab.*; C. v. 6, *fucatus*, *Sab.*; C. v. 7, *pictus*, *Sab.*; C. v. 8, *Andersonii*, *Sab.*; C. v. 9, *Sabini*, *Sab.*; C. v. 10, *glorianus*, *Sab.*; C. v. 11, *pulchellus*, *Sab.*; C. v. 12, *neapolitanus*, *Sal.*; C. v. 13, *obovatus*, *Sal.*

ENGRAVINGS.—Eng. Bot. t. 344; 2nd edit. vol. 1, t. 44; Hort. Trans. vol. v. t. 11 and 12; Bot. Reg. t. 1416 (*leucorhynchus*), and

t. 1440 (*pictus*); Bot. Mag. t. 860 (*neapolitanus*), and t. 2240 (*obovatus*).

SPECIFIC CHARACTER.—Tube of the perianth hairy at the mouth, shorter than the segments; segments obovate. Styles and stamens enclosed within the flower. Leaves few, ensiform. Spathe 1-valved. Scales of the corms fibrous, membranous.

DESCRIPTION, &c.—The true Spring Crocus is a handsome, somewhat egg-shaped flower, which never opens fully, and has a rather thick tube, which is much shorter than the segments of the perianth. The colour of the species is a pale lilac, and that of the varieties varies from white to a deep purple, though none of them are yellow. This species grows wild in great abundance in the meadows near Nottingham, and in some other parts of England, where it flowers in March. The leaves appear with the flowers; but they are very short until the flower decays, after which they elongate, and should be left on till they wither naturally, as they are required to nourish the new bulbs, which form every year above the old ones, as they gradually waste away. When planted in a garden, these Crocuses should be grown in dry and rather poor soil, as if they are kept in a rich moist soil they will waste their strength in producing offsets, and they will throw out more leaves than flowers. They should very seldom be removed, as they are generally a full year before they recover themselves after transplanting. The seed of the Crocus forms in the ground, and rises above it when ripe, which will be about the time that the leaves show symptoms of decay. When this is the case, and it is wished to save the seed to raise new varieties, the capsules should be gathered, and the seeds sown immediately in boxes, or in a warm dry border, where they may remain till they flower, when the best may be selected and transplanted, and the others thrown away.

### 2.—CROCUS VERSICOLOR, *Ker.* THE PARTY-COLOURED CROCUS.

VARIETIES.—C. v. 2, *purpureus*, *Sab.*; C. v. 3, *plumosus*, *Sab.*; C. v. 4, *elegans*, *Sab.*; C. v. 5, *urbanus*, *Sab.*

ENGRAVINGS.—Bot. Mag. t. 1119; our *fig.* 6, in Plate 23; and Hort. Trans. vol. 5. t. 11 and 12.

SPECIFIC CHARACTER.—Tube of the perianth not hairy at the mouth, nearly equal in length to the limb; segments ovate. Styles and stamens enclosed in the flower. Leaves numerous. Spathe bi-valved. Tunic of the corm streaked with close straight parallel lines.

DESCRIPTION, &c.—A curious little plant, which has the appearance of being stunted in its growth, and which, in fact, frequently is so—as two new bulbs often form in the place of the old bulb; and when this is the case, they generally grow into one, which sends up two sets of leaves and flower-stems, which look stunted and imperfect for want of sufficient room, and probably from a deficiency in nourishment. The flower is very fragrant, having a scent resembling that of the violet. The species is supposed to be a native of the South of France; but it has grown in English gardens ever since the time of Parkinson, by whom it was described in 1629, and probably much longer. The corm is large, and covered with a strong brown membrane, strongly streaked with close straight parallel lines. The culture is the same as for *C. vernus*; but when planted, it seldom remains so many years, as, from the large size and succulent nature of the corm, it is very apt to be devoured by mice and woodlice, the great enemies of plants of this genus.

3.—CROCUS SUAVEOLENS, *Bertol.* THE FRAGRANT CROCUS.

SYNONYMES.—*C. imperati*, *Coll.*, but not of *Ten.*; *C. vernus*, var., *Sebast. et Maur.*

ENGRAVING.—Swt. Brit. Flow. Gard. 2d ser. t. 352.

SPECIFIC CHARACTER.—Tube of the perianth very slender, and much

longer than the limb; segments lanceolate. Stigma 3-cleft, lobes divaricate. Leaves numerous, slender. Spathe 1-valved. Corm covered with a fibrous tunic, and sending down one or two fleshy fusiform roots.

DESCRIPTION, &c.—A very pretty little plant, remarkable for the very long and slender tube of its flowers, which is rendered the more striking by the tube being yellow and the limb lilac. The limb shrivels and becomes of a deep purple in dyeing, which contrasts strongly with the dark orange of the stigmas. The flower is very fragrant. The leaves are of a deep green, but very narrow and grass-like. This species is a native of Italy, and it is found wild in great abundance near Rome. It is rather more tender than *C. vernus*.

4.—CROCUS IMPERATI, *Ten.* THE IMPERIAL CROCUS.

SYNONYME.—*C. incurvus*, *Donn.*

ENGRAVING.—Swt. Brit. Flow. Gard. 2d ser. t. 98.

SPECIFIC CHARACTER.—Tube of the perianth about equal in length to the limb; segments elliptic, obtuse, and sometimes emarginate;

the three outer ones of a pale yellow tinge on the outside, feathered with dark violet-coloured lines. Leaves slender, recurved, spreading. Spathe 2-valved. Corm covered with a scaly tunic, and sending down two or more thick fusiform roots.

DESCRIPTION, &c.—This very remarkable species is distinguished by a long fusiform root protruding from the bulb at the time of the plant flowering, and appearing to exhaust all its substance; though a new bulb forms afterwards, when the fusiform root wastes away. The bulb or rather corm is small and very hard; but the fusiform root it sends forth is often six inches long or more, and sometimes it protrudes two. The flowers and leaves appear to lie recumbent on the ground; and the flowers are remarkable for having the alternate segments of the limb of a yellowish hue, feathered with dark purple, while the other segments are of a clear violet. The species grows wild near Naples, and in England it requires protection during winter.

5.—CROCUS BIFLORUS, *Ait.* THE TWO-FLOWERED OR SCOTCH CROCUS.

SYNONYME.—*C. vernus*, var., *Mill.*

VARIETY.—*C. b. 2 Parkinsonii*, *Sab.*

ENGRAVINGS.—Bot. Mag. t. 845; Bot. Rep. t. 362; and our fig. 3 in plate 23.

SPECIFIC CHARACTER.—Tube of the perianth not hairy at the mouth, and shorter than the limb; segments ovate. Spathe bivalved. Tunic of the corm smooth, but in circular scales.

DESCRIPTION, &c.—One of the earliest-flowering and best-known of all the kinds of Crocus. A native of the Crimea, introduced before 1629. It is difficult to say why it has obtained the name of the Scotch Crocus; unless it be from its extreme hardiness, as the Scotch have the reputation of being an extremely hardy race. It will grow in any soil and situation; but, like the other hardy Crocuses, it will not bear removing as well as most other plants. No Crocuses should ever be taken up oftener than once in three years, and, generally speaking, not oftener than once in six or seven years, and then only to remove the offsets. The leaves and even the corms of this species are frequently eaten by rabbits.

6.—CROCUS MINIMUS, *Hook.* THE SMALL OR ANNULAR CROCUS.

SYNONYMES.—*C. nanus*, *Dec.*; *C. reticulatus*, *Smith*; *C. præcox*, *Sowerby*; *C. pusillus*, *Tenore*.

ENGRAVINGS.—Bot. Mag. t. 2991; Eng. Bot. Supp. t. 2645; sec. edit. vol. 1, t. 44 bis; Swt. Brit. Flow. Gard. t. 106.

SPECIFIC CHARACTER.—Tube of the perianth much longer than the

limb; segments oblong. Leaves only three or four, shorter than the scape; linear, with a flat broad heel in the middle, and the margins revolute. Spathe 1-flowered. Tunic of the corm coriaceous, smooth and dividing into rings at the base.

DESCRIPTION, &c.—A very small plant, each bulb only producing one flower, and these much less in size than those of the other species of the genus. The flowers vary very much, some being nearly white, others streaked



with purple, and others entirely purple. The most remarkable part of the plant is, however, the corm, which is covered with a smooth tunic, dividing at the base into several regular and very neat rings. It is a native of Britain, having been found wild in the park at Barton Hall, Suffolk. It is also a native of Italy, where its corm, like that of many of the other Italian Crocuses, frequently sends down a fleshy fusiform root during the flowering season.

#### 7.—CROCUS SUSIANUS, *Ait.* THE TURKEY OR CLOTH-OF-GOLD CROCUS.

ENGRAVINGS.—Bot. Mag. t. 652; and our *fig.* 5, in Plate 23.

SPECIFIC CHARACTER.—Tube of the perianth much longer than the limb; segments spreading, recurved when fully expanded, striated on

the back. The outer tunic of the corm consisting of coarse, wiry, reticulated fibres.

DESCRIPTION, &c.—This well-known Crocus is generally the second that opens in spring, as the Scotch Crocus is the first, and it generally flowers early in March. Its flowers are, however, very short-lived. Very soon after it opens, the three outer segments of the limb curl back so strongly that they do not unroll when the rest of the flower closes in the evening. The flower-stem seldom rises far above the ground, and the leaves are frequently recumbent. The plant only rarely produces seed. The corm is covered with a loose, wiry, netted tunic. This species is a native of the country near Constantinople, whence it was received by Clusius (who then resided at Frankfort) about the year 1587, and it was soon after sent to England. It has thus been an inhabitant of British gardens nearly three hundred years.

#### 8.—CROCUS SULPHUREUS, *Ker.* THE SULPHUR-COLOURED OR SELF-COLOURED CLOTH-OF-GOLD CROCUS.

VARIETY.—C. s. 2 striatus, *Sab.* The worst Yellow, or old Cloth-of-gold Crocus, Bot. Mag. t. 938.

ENGRAVING.—Bot. Mag. t. 938.

SPECIFIC CHARACTER.—Tube of the perianth very slender, longer

than the limb; segments lanceolate, spreading. Stamens much shorter than the stigmas; anthers very small. Tunic of the corm thin, pliant, and finely striated. Spathe bivalved.

DESCRIPTION, &c.—A very handsome flower, growing much higher and stronger than the common Cloth-of-gold, and with the segments of the perianth more pointed. The flowers are also remarkable for the smallness of the anthers. It flowers very early, and is very showy, but has no scent; and it never produces seeds, though it has plenty of offsets. It is a native of the south of Europe, whence it was introduced before 1629. It is probably the same as *C. stellaris*, or that kind is a variety of it.

#### 9.—CROCUS LAGENÆFLORUS, *Salis.* THE BOTTLE GOURD-FLOWERED CROCUS.

ENGRAVING.—Bot. Mag. t. 2655.

SPECIFIC CHARACTER.—Tube of the perianth shorter than the limb;

segments oval, outer ones much narrower than the others. Anthers long, spreading; stigmas narrow. Tunic of the bulb strongly striated.

DESCRIPTION, &c.—Whitish flowers, of very little beauty. Both the flower-stem and the leaves appear muffled up in a thick membranous sheath. It is probably only a variety of *C. mæsiacus*. It is said to be a native of Greece, but the year of its introduction is unknown.

#### 10.—CROCUS AUREUS, *Smith.* THE GOLDEN CROCUS.

SYNONYME.—C. luteus, *Lindl.*

ENGRAVINGS.—Bot. Mag. t. 2986; Eng. Bot. Supp. t. 2646; and 2d edit. vol. 1, t. 44\*.

SPECIFIC CHARACTER.—Tube of the perianth much longer than the limb; segments ovate. Anthers much longer than the stigmas, which are very small. Tunic of the corm elongated, stiff, membranous, becoming ragged with age.

DESCRIPTION, &c.—This is the first of the yellow-flowered division of the Spring Crocuses; and the brilliancy of its colour would make it well deserving of cultivation, were it not for the smallness of the flowers. The corm



*1. Crocus vernus 2. Crocus sativus 3. Crocus chrysanthus 4. Crocus cornutus*  
*5. Crocus tommasinianus 6. Crocus variegatus*





is nearly globular, and the tunic which covers it is thick, smooth, and jagged at the upper part. Very frequently two or more flowers rise from one corm. The leaves are produced with the flowers, but they are very short till the flowers decay, after which they gradually elongate, till at last they become very long. This species grows wild in the park at Barton Hall, Suffolk, where it flowers in March.

#### 11.—CROCUS LUTEUS, *Sal.* THE COMMON YELLOW CROCUS.

SYNONYMES.—*C. vernus*, *Curt.* ; *C. v. latifolius*, *Bauh.*  
 ENGRAVING.—*Bot. Mag.* t. 45.

SPECIFIC CHARACTER.—Tube of the perianth shorter than the limb ; segments obovate. Anthers shorter than the stigmas. Tunic of the corm smooth, coriaceous, and jagged at the upper part.

DESCRIPTION, &c.—The large Yellow Crocus is so common in gardens and so conspicuous a flower, that any description of it seems superfluous. In fact, few objects are more beautiful early in March than a bed of yellow Crocuses opening their large flowers to the mid-day sun, and shining with almost metallic lustre, while a number of bees, just wakened into life and activity, are buzzing round them. The large yellow Crocus is a native of the Levant, whence it was introduced in 1620 ; and since that period it has always been a favourite flower in gardens, both for its beauty and the cheerful appearance it has among the dull green of a wintry garden, and for the excellent effect it produces where Crocuses are planted so as to form some kind of pattern or arabesque in the beds. A very showy effect is often thus produced, particularly in gardens which are looked down upon from the window of a living-room. Arabesque patterns, a crest, diagonal lines, diamonds, crescents, and in short any figure that may strike the fancy, may be produced by planting the large yellow, purple, and white Crocuses so as to form masses of the desired colours ; but in these beds no striped Crocuses should be admitted, and none of the early-flowering kinds, as the beauty of the bed depends upon all the flowers being in full perfection at the same time. There is one objection, however, to cultivating the Yellow Crocus ; and that is, that no flower is more liable to be attacked by the sparrows ; and these mischievous birds seem to have a peculiar delight in spoiling the appearance of the flowers, as they generally pull off only the tips of the segments, and thus, instead of being content with destroying a few flowers, they spoil the appearance of the whole bed. A stuffed cat, apparently crouching among the bushes bordering the bed of Crocuses, is a very good way of keeping these depredators at a distance, without injuring the effect that it is wished to produce with the flowers. The Yellow Crocus should be planted in sandy loam, in a dry open situation, and it will bear taking up and replanting once in three or four years without injury. It should indeed be taken up occasionally whenever it is intended to form a figure ; as unless this is done, the lines will be rendered imperfect from the great number of its offsets.

#### 12.—CROCUS MÆSIACUS, *Ker.* THE CREAM-COLOURED CROCUS.

SYNONYMES.—*C. aureus*, *Sib.* ; *C. luteus*, *Lam.*

ENGRAVINGS.—*Bot. Mag.* t. 1111 ; *Flor. Græc.* t. 35.

SPECIFIC CHARACTER.—Tube of the perianth not hairy, and about

equal in length to the limb ; segments ovate. Anthers longer than the styles ; filaments pubescent. Tunic of the corm smooth, but deeply lacerated. Spathe 2-valved.

DESCRIPTION, &c.—A very elegant but rare Crocus, though it was introduced from Greece in 1579. It approaches nearest to *C. sulphureus* in both its habit of growth and general appearance.

## AUTUMNAL CROCUSES.

13.—CROCUS SATIVUS, *Smith*. THE CULTIVATED OR SAFFRON CROCUS.

SYNONYME.—*C. autumnalis*, *E. B.*  
 ENGRAVINGS.—Eng. Bot. t. 343 ; 2d edit. vol. 1. t. 43 ; and our *fig. 2*, in Plate 23.  
 SPECIFIC CHARACTER.—Tube of perianth hairy at the mouth, and about equal in length to the limb ; segments lanceolate. Style longer than the stamens ; stigma deeply 3-cleft and hanging out of the flower. Leaves very long. Tunic of the corm thin, membranous, and composed of reticulated fibres.

DESCRIPTION, &c.—A very handsome plant, with large flowers of a pale purple or violet, which are easily distinguished from all the other species by the stigmas hanging out of the flowers. These stigmas, when dried, form the saffron ; and the Crocuses are grown on a large scale in order to produce it for sale near Saffron Walden in Essex, the town taking its name from the drug. The flowers and leaves of the Saffron Crocus appear simultaneously, the leaves being even from the first longer than the flowers, which appear in September. It is very ornamental, and it requires no other care than that of planting it in a deep and somewhat sandy soil. When a saffron plantation is formed, the ground having been three or four times ploughed during winter, and manured, the bulbs are planted in May, about three inches apart and six inches deep. They are planted in drills, and hoed up every six weeks till the appearance of the flowers. The flowers continue to appear a month or six weeks in succession, and they are gathered every day or every other day, dry weather and the middle of the day being preferred if practicable. The flowers are then carried to the house, and the stigmas being picked out by women and children, they are spread out to dry on linen cloths, suspended by cords, like hammocks, in a room heated by a fire or hot pipes, the linen cloths being gently moved to and fro frequently while the saffron is drying to prevent its becoming matted together. Five pounds' weight of stigmas make only one pound of saffron. The saffron, when dry, is put into paper bags, and it is then ready for sale. Saffron plantations are liable to be attacked by several diseases, the most fatal of which is called in France *Mort du Safran*, and consists of a fungus (*Rhizoctonia*) which forms on the corm.

14.—CROCUS SEROTINUS, *Sal.* THE LATE-FLOWERED, OR AUTUMNAL CROCUS.

SYNONYME.—*C. alpinus*, *Rudb.* ; *C. montanus*, *Park.* ; the Mountain Crocus.  
 ENGRAVINGS.—Bot. Mag. t. 1267 ; and our *fig. 4*, in Plate 23.  
 SPECIFIC CHARACTER.—Tube of the perianth slightly pubescent at the mouth ; much longer than the limb ; segments lanceolate. Anthers much shorter than the styles. Tunic of the corm smooth, entire.

DESCRIPTION, &c.—A purple-flowered species, remarkable for the deep orange-colour of its long and exserted stigmas. The flowers are rather small. The species is a native of the Crimea, but it has also been found on rocks by the sea-shore in Portugal.

15.—CROCUS SPECIOSUS, *Hook.* THE SHOWY CROCUS.

SYNONYMS.—*C. nudiflorus*, *Smith* ; the naked-flowering Crocus.  
 ENGRAVINGS.—Eng. Bot. t. 491 ; Supp. t. 2752 ; 2d ed. vol. 1. t. 45 ; Bot. Reg. 1839, t. 40 ; and our *fig. 1*, in Plate 23.  
 SPECIFIC CHARACTER.—Tube of the perianth much longer than the limb ; segments obovate. Anthers much shorter than the styles. Tunics of the corm membranous and fibrous ; outer one much shorter than the others, and jagged.

DESCRIPTION, &c.—The most beautiful of all the Crocuses, from the large size of its flowers, which appear in October without the leaves, which are not protruded till the flowers have withered, but which remain on the plant till the ripening of the seed, which is not till the following April or May. It grows wild in several parts of England ; but it is supposed to be only naturalised here, and to have been originally a native of the Crimea. It differs from the other Crocuses in thriving under the shade of trees, and preferring a situation near water.

## OTHER SPECIES OF CROCUS.

*C. STRIATUS, L.*

The flowers are striped violet and white ; and it is probably only a variety of *C. versicolor*.

*C. THOMASII, Tenore.*

A native of Naples, introduced in 1830, with a bluish-purple flower.

*C. ODORUS, Tenore.*

An Italian species, flowering in February, with very fragrant flowers.

*C. ARGENTEUS, Sab.* ; THE CLOTH-OF-SILVER CROCUS.

Probably a variety of *C. biflorus*, raised in England from seed.

*C. ALBIFLORUS, Salis.*

A native of Hungary, with white flowers, which appear in February ; the year of introduction is unknown.

*C. VARIEGATUS, Salis.*

A native of Greece, with yellow and purple flowers, nearly allied to the Cloth of Gold ; introduced in 1828.

*C. RETICULATUS, Bieb.*

With yellow and violet flowers, a native of Caucasus ; introduced in 1825. Probably only a variety of the Cloth of Gold.

*C. STELLARIS, Sab.*

A native of the South of Europe, with yellow and purple flowers, commonly called the starry Cloth of Gold.

*C. LACTEUS, Sab.*

A species with cream-coloured flowers, which has a variety, *C. l. 2 pencillatus*, with striped flowers. The native country and year of introduction of both these kinds are unknown.

*C. PALLASII, Bieb.* ; *C. AUTUMNALIS, Salis.*

An autumnal-flowered Crocus, a native of Tauria and the Crimea ; the year of introduction is unknown.

## CHAPTER II.

## HÆMODORACEÆ.

|                                                                                                                                        |                                                                       |
|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| ESSENTIAL CHARACTER OF THE ORDER.—Perianth regular, six-parted.                                                                        | sular, three-valved, indehiscent. Seeds peltate. Albumen farinaceous. |
| Stamens three or six ; when three, they are opposite the alternate lobes of the perianth. Ovary adherent. Stigma undivided. Fruit cap- | Embryo minute.                                                        |

DESCRIPTION, &c.—There is only one genus belonging to this order which contains bulbous-rooted plants ; all the rest being greenhouse suffrutescent perennials.



GENUS I.  
WACHENDORFIA, L. THE WACHENDORFIA.

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Lin. Syst. TRIANDRIA MONOGYNIA.

<p>GENERIC CHARACTER.—Perianth sub-bilabiate-rotate, resupinate, with a channelled, honey-bearing appendage on both sides at the base. Stamens six, declinate. Style elongated, oblique, partly persistent.</p>	<p>Capsule membranaceous, three-celled, three-valved, triquetrous, the angles compressed; cells one-folded.</p>
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DESCRIPTION, &c.—Cape plants, with panicles of showy flowers, very unlike those of most of the kinds of bulbous-rooted plants. The *Wachendorfias* can, in fact, scarcely be called bulbous plants, though they are generally classed with these plants in seed-catalogues, and are propagated by bulb-like offsets. They have all rhizomas or under-ground stems, in the scales of which buds, like little bulbs, form; by which, when detached, several of the species are propagated, and it is these species that are classed with the bulbs. The other species have rhizomas, the buds of which are not sufficiently bulb-like to be detached; and these, not being included in bulb-catalogues, have been omitted here.

1.—WACHENDORFIA PANICULATA, L. THE PANICLED WACHENDORFIA.

<p>SYNONYMES.—<i>Asphodelus latifolius</i>, <i>Breyer</i>; <i>Erythrobulbus hellebori</i>, <i>Pluk.</i></p>	<p>SPECIFIC CHARACTER.—Racemes corymbosely panicled. Leaves deciduous, plicate, glabrous.</p>
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ENGRAVINGS.—*Bot. Mag.* t. 616; and our *fig.* 1, in Plate 24.

DESCRIPTION, &c.—One of the peculiarities of the genus *Wachendorfia* is, that some of the species have deciduous leaves, and others persistent ones. Those of *Wachendorfia paniculata* are deciduous, that is, they fall off soon after the plant has done flowering; and when this is the case, the bulb should be allowed a season of complete rest, being kept with very little, or without any water, till the buds of the new leaves begin to show themselves. The way to know when a little water should be given is frequently to examine the earth in the pot, and so long as this remains sufficiently moist to adhere, no water is required; all that is necessary being to prevent the soil from becoming quite dry and dust-like. The plants should be grown in pots, exceedingly well drained, by being filled to at least a quarter of their depth with potsherds, and large in proportion to the plants; the soil being very sandy loam mixed with peat. The plants are quite hardy, and if it were possible to keep them dry during winter, they would thrive much better in the open ground than in pots, as they require plenty of room for their roots. The flowers, which have no fragrance, are produced in great abundance in July; and they look at a little distance like some showy variety of Wallflower. Even when grown in pots, they should be plunged into the open border to flower. Bulbs of most of the kinds of *Wachendorfia* may be purchased in the seed-shops; and they should be planted in February or March. The name of *Wachendorfia* was given to this species by Thunberg, in honour of M. Wachendorf, a Dutch botanist, who imported it from the Cape; but though it appears to have been the first species sent to Europe, it was not introduced into England till 1770.

2.—WACHENDORFIA HERBERTI, *Swt.* THE HON. AND REV. W. HERBERT'S WACHENDORFIA.

<p>SYNONYMES.—<i>W. paniculata</i>, <i>var. Herb.</i>; Panicled <i>Wachendorfia</i>, Naples yellow variety.</p>	<p>SPECIFIC CHARACTER.—Racemes panicled, racemules two-flowered, villous. Leaves deciduous, lanceolate, plicate, glabrous, longer than the scape.</p>
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ENGRAVINGS.—*Bot. Mag.* t. 2610; and our *fig.* 3, in Plate 24.

DESCRIPTION, &c.—This plant has a small close raceme, with very close lateral branches bearing only two flowers each. The colour of the flowers is a pale yellow, and only a few are expanded at a time. The leaves



1. L. ... 2. ... 3. ...

...

are very long and curiously plaited; they are deciduous, and fall off soon after the flowers. The bulbs were sent from the Cape of Good Hope, to the Rev. and Hon. W. Herbert, in 1823; and when they first flowered they were supposed to be a variety of *W. paniculata*. The different form of the raceme, and the great length of the leaves, however, appear to have induced Mr. Sweet to make it a distinct species; and his example has been generally followed by botanists. *W. Herberti* is generally grown in peat, and the culture is the same as that of *W. paniculata*.

3.—WACHENDORFIA HIRSUTA, Thunb. THE HAIRY WACHENDORFIA.

SYNONYME.—*W. paniculata*, *Burm.*

ENGRAVING.—*Bot. Mag.* t. 614.

SPECIFIC CHARACTER.—Flowers panicled, composed of numerous

divergent racemes, villous. Leaves deciduous, elliptic-lanceolate, plicate, villous.

DESCRIPTION, &c.—The colour of the flowers of this species is nearly the same as that of *W. paniculata*, but the plant itself is far inferior in beauty, from the panicle being smaller, and the flowers fewer, and further apart. The stem is also taller and weaker, and its branches spread wider. Every part of *W. hirsuta* is hairy, even the flowers. The leaves are deciduous; and the flowers, which are without scent, open in succession, very few being expanded at the same time, and those closing every evening. They appear in July. The culture of the plant is the same as of *W. paniculata*. *W. hirsuta* was the first species of the genus grown in England, having been introduced in 1687; but *W. paniculata* had been known some years previously in Holland.

4.—WACHENDORFIA BREVIFOLIA, Soland. THE SHORT-LEAVED WACHENDORFIA.

SYNONYMS.—*Sysyrinchium ramosum*, *Breyn.*; Dingy flowered Wachendorfia.

ENGRAVINGS.—*Bot. Mag.* t. 1166; and our *fig. 2*, in Plate 24.

SPECIFIC CHARACTER.—Racemes loose, panicled. Leaves persistent, lanceolate, plicate, villous.

DESCRIPTION, &c.—This *Wachendorfia* differs from the other species described, in having persistent leaves. The stem is not more than a foot high, and the panicle is large, and full of flowers. The flowers are of a very singular colour and they are without fragrance. The leaves are short and very broad, with deep folds. The species is worth cultivating notwithstanding the dingy hue of the flowers, from their abundance, and the compact habit of growth of the whole plant. It is, however, more tender than the other kinds, and it is always kept in a greenhouse. It was introduced in 1795.

CHAPTER III.

HYPOXIDÆ.

ESSENTIAL CHARACTER OF THE ORDER.—Perianth regular, 6-parted. Stamens six, inserted at the base of the lobes of the ovary, which is adherent and 3-celled. Stigmas 3-lobed, Fruit indehiscent;

sometimes fleshy. Seeds numerous. Embryo in the centre of the fleshy albumen without any precise direction.

DESCRIPTION, &c.—This is a very small order. All the plants belonging to it have the segments of the perianth regular, and somewhat pointed; they have generally the leaves folded in two, so as to embrace the stem; and there is a tendency to hairiness in both the leaves and the flowers. Many of the kinds have erect rhizomas, or underground stems, of coarse, fibrous matter, surmounted by a bulb, consisting of a similar substance; and all the species have stiff, erect leaves, and stellate flowers.

GENUS I. HYPOXIS, *L.* THE HYPOXIS.

Lin. Syst. HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Germen erect ; perianth deeply divided, with an annular base ; expanding in the sun, persistent ; filaments short, subulate, erect ; affixed between the cells ; styles short, 3-furrowed, tripartite down to the opercle ; stigma short, erect, fimbriated ; capsule 3-celled, 3-valved, the valves breaking transversely from the opercle, parting laterally upwards, united below. Seeds small, black, the foramen a little pointed, the umbilicus lateral, minutely beaked. (*W. Herb.*)

DESCRIPTION, &c.—All the species of the genus *Hypoxis* have erect, oblong, fibrous rhizomas, or underground stems ; and some of the species have the rhizoma crowned by a kind of bulb, consisting of a mass of fibrous coats. The leaves are generally plicate, and sheathing the stem ; and the flowers when fully expanded are star-shaped, and very showy. The species are natives of America, Australia, Asia, and Africa ; and only part of them can be grown in the open air in England.

1.—HYPOXIS LINEARIS, *And.* THE LINEAR-LEAVED HYPOXIS.

SYNONYME.—*Hypoxis serrata* *β*, *Ker.*

ENGRAVINGS.—*Bot. Rep.* t. 171 ; *Bot. Mag.* t. 917.

SPECIFIC CHARACTER.—Leaves lorate, channelled, obsoletely serrulated. Scape 1-flowered, naked.

DESCRIPTION, &c.—The flowers are star-like, and of a most brilliant orange, on naked foot-stalks. Each bulb produces three or more flowers ; and as these are borne on rather short, stiff, and erect stalks, they have a very handsome appearance, and are very suitable for boxes under a veranda. They also look well planted on a sloping bank, opposite a breakfast-room window ; or in any situation exposed to the morning sun, as they expand widely in its beams. The leaves are also broad and handsome. The species is a native of the Cape, whence it was introduced in 1792 ; and it flowers in April and May. The bulbs should be planted in October or November, in a sandy loam ; and they should be kept dry during winter.

2.—HYPOXIS STELLATA, *Willd.* THE STARRY HYPOXIS.

SYNONYMS.—*Ainarrylis capensis*, *Lin* ; *Fabricia stellata*, *Thunb.* ; yellow starry Hypoxis.

ENGRAVINGS.—*Bot. Mag.* t. 662 ; *Bot. Rep.* t. 101 ; and our *fig.* 4, in Plate 25.

SPECIFIC CHARACTER.—Leaves lorate, channelled, twisted. Scape 1-flowered, sheathed by a convolute leafy bractea at the base.

DESCRIPTION, &c.—This flower, though very showy, is not quite so handsome as that of *H. linearis*, because the petals are narrower and more pointed, and there are not so many flowers to each bulb. There is, however, a rich, dark brown spot at the base of each petal, which is wanting in the former species. In both species the bulb is placed on the summit of a smooth rhizoma. The flowers only expand when the sun shines, but they last several days ; they are quite scentless. The species was discovered near the Cape of Good Hope, by Thunberg, who called it *Fabricia*. It was introduced in 1778. It should be grown in light, sandy mould ; and it should be kept in a greenhouse. It may be planted in November, and it will flower in May.

3.—HYPOXIS ELEGANS, *Pers.* THE ELEGANT HYPOXIS.

SYNONYME.—*H. stellata* *β*, *Ker* ; white starry Hypoxis.

ENGRAVINGS.—*Bot. Mag.* t. 1223 ; and our *fig.* 2, in Plate 25.

SPECIFIC CHARACTER.—Leaves linear-lorate, channelled, straight.

Scape one-flowered, turned back near the apex, sheathed by a convolute leafy bractea, which is reflexed at the tip.

DESCRIPTION, &c.—Each bulb produces but one flower, which is star-like in shape ; and the segments are white, stained with a rich dark purple at the base, so as to form a dark eye in the centre of the flower. The

scape is sheathed in a kind of leafy bractea, which is slightly turned back at the tip. It is a native of South Africa, whence it was introduced in 1752. It is nearly hardy, but as it flowers early, and requires to be kept dry during winter, it is generally grown in a pot in sandy loam, and kept in a frame or greenhouse. It flowers in April and May.

4.—HYPOXIS SERRATA, Willd. THE SAW-LEAVED HYPOXIS.

SYNONYME.—*Fabricia serrata*, Thunb.

ENGRAVING.—Bot. Mag. t. 709; and our fig. 1, in Plate 25.

SPECIFIC CHARACTER.—Leaves lorate, serrated, with remote retro-

grade prickles. Scapes one-flowered, furnished with two small subulate bracteas beneath the middle.

DESCRIPTION, &c.—A very distinct species, from its prickly leaves and the smallness of its flowers, which are of a bright orange yellow within and green without. The leaves are folded like those of the other species, with a white channelled stripe down the midrib inside; and along the back of the projection formed by the fold, and on their margins, they are furnished with strong prickles, which stand out like the teeth of a saw. The flowers are on separate stalks, but one bulb produces several. The rhizoma, which is renewed every year, is sub-globose, and hollowed out in the upper part to receive the bulb. The flowers have no fragrance; but though small, they are worth growing for the length of time for which they are produced in succession. There is a variety, the flowers of which are copper-coloured. Both the species and variety are very nearly hardy; but they succeed best in pots, in which they should be grown in heath mould, and kept nearly dry during winter. The species is a native of the Cape, and it was introduced in 1788.

5.—HYPOXIS OVATA, Willd. THE OVATE-LEAVED HYPOXIS.

ENGRAVING.—Bot. Mag. t. 1010.

SPECIFIC CHARACTER.—Leaves ovate-lanceolate, channelled, striated.

Scapes one-flowered, furnished with a solitary linear-bractea below the middle.

DESCRIPTION, &c.—This is a very distinct species from the shape of the leaves, which are broad and short, and not folded like those of the other species. The rhizoma is, however, nearly the same as that of *H. serrata*, as it is semiglobular, and depressed at the summit, so as to form a kind of socket for the bulb. The flowers are small and of rather a dingy yellow; they are produced singly on the flower-stems, and each bulb sends up about three. The species is a native of South Africa, and it was introduced in 1806.

6.—HYPOXIS STELLIPILIS, Ker. THE TUFTED HYPOXIS.

SYNONYME.—Starry furred Hypoxis.

ENGRAVING.—Bot. Rep. t. 663.

SPECIFIC CHARACTER.—Leaves lorate-lanceolate, channelled, covered with wool, intermixed with tufts of starry hairs. Scapes hairy, few-flowered, and the pedicels of each furnished with bractea.

DESCRIPTION, &c.—The leaves of this plant bear some resemblance to those of the pine-apple in their form and general arrangement; but they are studded on the under side with starry tufts of rather long, grey hairs, which shine like little stars among the white woolly, or cottony substance which clothes the leaves. The flowers are small, and of a golden yellow; and they also are furred on the outside. The scape is two or three-flowered; and the bulb, which is more scaly than in most of the other species, is flattened at the base. The species is a native of the Cape, and it was introduced in 1821. It begins to flower in May, and continues nearly all the summer. It is tolerably hardy, and may be left in the open ground for several years in succession, if the soil is sandy and the situation dry.

7.—HYPOXIS ERECTA, Willd. THE UPRIGHT HYPOXIS.

SYNONYMES.—*H. Caroliniensis*, var. *Michx.*; *Ornithogalum hirsutum*, *Lim.*

ENGRAVINGS.—Bot. Mag. t. 710; Lodd. Bot. Cab. t. 710.

SPECIFIC CHARACTER.—Leaves linear-lorate, channelled, hairy. Scapes hairy, many-flowered, shorter than the leaves.

DESCRIPTION, &c.—One of the least ornamental species, but quite hardy. A native of North America, in Virginia, Carolina, and Pennsylvania; introduced in 1784. The flowers are yellow, and though they are small, yet, from their great abundance and the length of time that they continue, they produce a tolerably good effect. This species is quite hardy in the open ground in British gardens, but it grows best in a sandy or peat soil. The bulbs should be planted in spring, and they may remain several years in the ground without taking up.

8.—HYPOXIS CAROLINIENSIS, Michaux. THE CAROLINA HYPOXIS.

SYNONYMES.—*H. graminea*, *Pursh*; *H. filifolia*, *Elliot*.

SPECIFIC CHARACTER.—Leaves subulate, grass-like. Scape 1-4-flowered; segments ovate-lanceolate.

DESCRIPTION, &c.—A hardy species, a native of Carolina, with yellow flowers; introduced in 1822. It is nearly allied to *H. erecta*, but it has larger flowers. It thrives best in sandy peat.

9.—HYPOXIS JUNCEA, Smith. THE REED-LIKE HYPOXIS.

SPECIFIC CHARACTER.—The whole plant is hairy. Scape 1-flowered. Leaves filiform, channelled.

DESCRIPTION, &c.—Nearly allied to *H. erecta*, with small yellow flowers and reed-like leaves. The flowers are scentless, and they are produced in June and July. The species is a native of Carolina, whence it was introduced in 1787; and it is quite hardy in British gardens. All the American species may be left in the ground for several years.

10.—HYPOXIS SOBOLIFERA, Jacq. THE BULB-BEARING HYPOXIS.

SYNONYMES.—*H. villosa*, *Ait.*; *H. erecta*, var. *Lam.*; *H. fabricia*, *Gärtn.*; *Fabricia villosa*, var. 3, *Thunb.*

ENGRAVINGS.—Bot. Mag. t. 711; and our fig. 3, in Plate 25.

SPECIFIC CHARACTER.—Leaves linear-lanceolate, hairy, spreading; longer than the scape. Racemes 4-6-flowered.

DESCRIPTION, &c.—This species differs from the others, in having its rhizomas horizontal and creeping, instead of erect; it is also more lasting, as it is not renewed every year; and it produces a great number of small bulb-like buds, each of which sends up a flower-stalk, and each of which, if separated, with a portion of the rhizoma attached, would form a new plant. The flowers have no fragrance, but they are rather large, and yellow, and star-like; and they are generally produced in bunches of four or six together, on a long, naked flower-stalk or scape. The leaves are broad, very long, and not folded; and they are covered with a soft, shaggy wool, which has a greyish hue. The species is a native of the Cape, whence it was introduced in 1774. It is nearly hardy in British gardens, only requiring a slight protection in case of severe and long-continued frosts; and as it is less likely to be injured by moisture than the other species, it may be left in the ground for several years without taking up. Like all the Cape bulbs, it thrives best in a sandy soil.



Xiphioides ... *Xiphioides* ... *Xiphioides* ...
Xiphioides ... *Xiphioides* ... *Xiphioides* ...
Xiphioides ...

11.—HYPOXIS VILLOSA, *Jacq.* THE HAIRY HYPOXIS.SYNONYMES.—*H. decumbens*, *Lam.* ; *H. villosa*, *Thunb.*

SPECIFIC CHARACTER.—The whole plant covered with short, fine hairs. Scape 4-flowered. Leaves linear-lanceolate. Fruit cylindrical.

DESCRIPTION, &c.—The bulb is subovate, flat at the base, solid and fleshy, and about the size of a hazel nut. There are numerous leaves, which are rather narrow, with the midrib acutely prominent at the back. The flower-stalk is slender and somewhat bending when in fruit, but the flowers are erect. The flowers are scentless, yellow within, but of a brownish green on the outside, with the segments spreading and star-like. The species is a native of the promontory of the Cape of Good Hope, and it is nearly hardy in British gardens, where it may be grown in the open air, with a slight protection during the winter, in very sandy loam, or heath mould. It begins to flower in June, and it continues producing a succession of flowers nearly all the summer.

12.—HYPOXIS OBLIQUA, *Willd.* THE OBLIQUE-LEAVED HYPOXIS.SYNONYMES.—*H. villosa*, *var. Schultes* ; *Fabricia villosa var. 2*, *Thunb.*

ENGRAVING.—Bot. Rep. t. 195.

SPECIFIC CHARACTER.—Scape 3-flowered, pilose, larger than the leaves. Leaves lanceolate, acuminate, obliquely reflexed, smooth, except at the margin, and down the back of the midrib, which are somewhat woolly.

DESCRIPTION, &c.—Nearly allied to *H. villosa*, but the bulb is nearly round, and the leaves are turned back and obliquely twisted. The flowers are yellow and without scent ; the segments are greenish on the back, particularly on the midrib, and the stamens have very short filaments. The species is a native of the Cape of Good Hope, where it is found in moist places between the mountains and the sea-shore. It is nearly hardy in British gardens, where it should be grown in sandy soil.

13.—HYPOXIS OBTUSA, *Ker.* THE OBTUSE HYPOXIS.

ENGRAVING.—Bot. Reg. t. 159.

SPECIFIC CHARACTER.—Leaves lorate-lanceolate, striated, hairy on the margins, and the keel. Scape hispid ; flowers racemose.

DESCRIPTION, &c.—This species differs from the others in having the segments of the perianth obtuse, instead of being pointed, and this destroys the star-like character of the flowers. The rhizoma is oblong and erect, the lower part being marked with broad, ring-like scars, and the upper part being bristly with the fibrous remains of the withered leaves. The bulb is somewhat flattened, and is produced as usual at the summit of the rhizoma. This species was discovered by Mr. Burchell, the South African traveller, on the sandy plains of Litákoon, about a thousand miles north-east of Cape Town. The flowers are small and yellow ; they are scentless, and form an erect raceme. The leaves are broad and hairy, and they are very numerous. The species, which is rather tender in England, should be grown in sandy peat, and kept in a greenhouse.

14.—HYPOXIS ALBA, *Willd.* THE WHITE HYPOXIS.

ENGRAVING.—Lodd. Bot. Cab. t. 1074.

SPECIFIC CHARACTER.—Scape 1-flowered. Leaves filiform and roundish, very smooth, and shorter than the scape.

DESCRIPTION, &c.—A very beautiful little plant, not above six inches high, with a bright red, slender flower-stalk, and snow-white, star-like flowers, which open to the morning sun, and continue on the plant for several days. The species is a native of the sandy plains of South Africa, at some distance from the Cape ; and it is rather tender in England, where it should be kept in a greenhouse, and grown in sandy peat. It was introduced by Messrs. Loddiges in 1806.

OTHER SPECIES OF HYPOXIS.

H. HYGROMETRICA, R. Br.

A native of New Holland, with yellow flowers; introduced in 1820.

H. VERATRIFOLIA, Willd.; H. PLICATA, Jacq.

A Cape plant, with yellow flowers; introduced in 1788, and flowers in June and July.

H. RAMOSA, Lodd. Bot. Cab. t. 1936.

This species has a branching stem and yellow flowers, which turn brown when they fade. After flowering the bulb sometimes remains dormant for two or three years, and it very rarely produces any offsets. It should be grown in sandy peat, and kept in the greenhouse.

H. MEXICANA, Karwinsky.

Nearly allied to *H. juncea*, but with larger flowers, which have acute segments, yellow within and greenish on the outside.

H. PUSILLA, Humb. et Bonpl.; H. HUMILIS, Kunth.

A dwarf species, with yellow flowers, having oblong, acute segments.

H. DECUMBENS, Willd.; ANTHERICUM SESSILE, Mill.

A showy species, with bright yellow flowers, a native of Jamaica, which is tender in England. Introduced in 1755.

H. PRATENSIS, R. Br.

A native of Australia, with yellow flowers; introduced in 1822.

H. GRACILIS, Leh.

A Mexican species, with yellow flowers; introduced in 1828, and requiring a greenhouse.

H. SELLOI, Otto.

A native of Buenos Ayres, with yellow flowers; introduced in 1827.

H. AQUATICA, Willd.

A native of the marshy land near the Cape, with yellow flowers; introduced in 1787. This species should be grown in sandy or peaty soil, kept moist.

GENUS II.

CURCULIGO, *R. Br.* THE CURCULIGO.*Lin. Syst. HEXANDRIA MONOGYNIA.*

GENERIC CHARACTER.—Germen erect, bracteate, nearly subterraneous; tube adhering to the style, cylindrical upwards; limb regular, patent; filaments short, inserted in the mouth of the tube; anthers distant, erect; seeds black, pendent, with a thick white cord filling a large

indenture between the umbilicus and foramen; umbilicus conspicuously beaked, proceeding from the side. Leaves broadest at the base. (*W. Herb.*)

DESCRIPTION, &c.—Curious little plants, of which only one species is a native of the Cape; there are two Australian kinds, which have not been introduced, and the rest are East Indian plants, which require a stove in England. The genus takes its name from the shape of the seeds, which somewhat resemble the maggots found in nuts, and which were formerly called Curculio.

1.—CURCULIGO PLICATA, *Ker.* THE PLAITED-LEAVED CURCULIGO.

SYNONYMES.—*Gethyllis plicata*, *Jacq.*; *Hypoxis plicata*, *Linn.*; *Fabricia plicata*, *Thunb.*

ENGRAVINGS.—*Bot. Reg.* t. 345; and our *fig.* 5, in Plate 25.

SPECIFIC CHARACTER.—Leaves two or three, broad, ensiform, plicate, somewhat pubescent along the margins. Flowers sessile.

DESCRIPTION, &c.—A very curious little plant, with yellow star-like flowers, which have very long tubes, and which appear before the leaves. There are two kinds,—the one having the leaves slightly hairy, and the other quite smooth. The bulb is about twice the size of a hazel-nut; the leaves are rather broad at the base, but long and tapering at the point, very short while the plant is in flower, but becoming gradually longer. The flowers, which are few in number, spring direct from the sheath of the bulb; and they have the tube of the corolla so long that it has the appearance of a flower-stalk. The species is a native of the Cape; and it may be grown in the open garden, if care be taken to keep it dry during winter.

CHAPTER IV.

AMARYLLIDACEÆ.

ESSENTIAL CHARACTER.—Perianth of six segments; stamens six, inserted in the perianth. Ovarium adherent; stigma 3-parted. Capsule 3-celled, dehiscent, or baccate. Seeds indefinite; albumen fleshy; embryo almost straight.

DESCRIPTION, &c.—An order of bulbous-rooted ornamental plants; the leaves of which are narrow, with parallel nerves; and the flowers are furnished with spathe-like bractæas. This order includes some of the most beautiful bulbous plants cultivated in British gardens; and it has been illustrated by the labours of one of the first botanists of the age, the Hon. and Rev. W. Herbert, in his splendid work on the Amaryllidaceæ. All the plants belonging to this order are well deserving of cultivation; but unfortunately many of them require a stove in England, and plants of this description do not come within the limits of my present work, in which I confine myself to those plants which may be grown in the open air, or, at least, in a frame or greenhouse without artificial heat.

GENUS I.

COOPERIA, *W. Herb.* THE COOPERIA.

Lin. Syst. HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Germen erect; tube erect, long, slender, cylindrical, widened at the mouth. Limb in its prime stellate. Filaments inserted at the mouth, nearly equal, erect. Anthers erect, affixed at one third from the base, not versatile, fasciculate; style erect. Stigma 3-lobed, fimbriated, viscous. Lobes furrowed, obtuse. Leaves linear, tortuous. Scape 1-flowered. Spathe 1-valved. (*W. Herb.*)

DESCRIPTION, &c.—The plants belonging to this genus are remarkable for their erect stems, which have none of the graceful pliability usually found in herbaceous plants, but stand straight upright, as though they had been straightened artificially. The flowers are white, and they open quite flat, always first expanding at night, but when once open remaining so night and day till the segments wither and fall off.

1.—COOPERIA DRUMMONDI, *Lindl.* MR. DRUMMOND'S RED-TUBED COOPERIA.SYNONYME.—*C. Drummondiana*, *W. Herb.*ENGRAVING.—*Bot. Reg.* t. 1835.

SPECIFIC CHARACTER.—Leaves linear, tortuous. Scape 1-flowered.

Spathe univalved, cylindrical below. Tube of the perianth red, and very long and slender; limb stellate and spreading; inner segments obtuse, exterior ones acute.

DESCRIPTION, &c.—A very remarkable plant, from the extraordinary length of the tube of its flower, which is a bright red, and the smallness of the limb, which is a clear white. The bulb is small and oval, and the leaves very long and slender. The plant, taken altogether, is generally more curious than beautiful. It was found in Texas by Mr. Drummond, the botanical collector; and Mr. Herbert named the genus *Cooperia* in honour of Mr. Cooper, gardener to the Earl Fitzwilliam at Wentworth House, in whose collection it flowered for the first time. Mr. Herbert thinks it will prove hardy, though it begins to grow in autumn.

2.—COOPERIA CHOLOROLEN, *W. H.* THE GREEN-TUBED COOPERIA.SYNONYME.—*C. Drummondii*, *var. chlorosolen*, *W. Herb.*ENGRAVINGS.—*Bot. Mag.* t. 3482; and our *fig. 2*, in Plate 26.

SPECIFIC CHARACTER.—Leaves linear-lanceolate, channelled, acute

at the apex, tortuous. Spathe membranous, slit at the apex. Tube of the perianth very long, green. Limb spreading; segments ovate.

DESCRIPTION, &c.—This species differs from the preceding one in the long tube of the flower being green and much thicker, and in the limb being much larger and less star-shaped: the leaves also are longer and broader. Both kinds were sent from Texas together by Mr. Drummond in 1834, and both have the peculiarity of their flowers expanding at night, and remaining open when once expanded without appearing to be at all affected by the presence or absence of the sun till they wither, which is generally three or four days from the period of their opening. The flowers have the fragrance of a primrose; and as soon as one flower fades, another scape begins to rise. The bulbs should be grown in very sandy loam, or heath-mould with a little loam; and they will bear considerable changes of heat and cold if care be taken to supply them freely with water.

GENUS II.

STERNBERGIA, *Wald. et Kit.* THE STERNBERGIA.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Bulb ovate; leaves linear, following the flower; germen subterraneous; scape autumnal, 1-flowered; tube erect, cylindrical; limb semi-patent; filaments filiform, dilated at the base,

conniving, alternately longer; anthers short, oblong, versatile; style thicker upwards; stigma 3-lobed. Seeds black, shining, dotted, with a thick spongy chord. (*W. Herb.*)

DESCRIPTION, &c.—This genus takes its name from Count Sternberg, the patron of Waldstein and Kitaibel, two German botanists, who named it in their *Flora of Hungary*. Several species were formerly included in this genus which have been since removed to other genera; so that it now contains only the following two species.

1.—STERNBERGIA COLCHICIFLORA, *Kit. et Wald.* THE COLCHICUM-FLOWERED STERNBERGIA.SYNONYME.—*Narcissus autumnalis minor*, *Clus.*ENGRAVINGS.—*Bot. Reg.* t. 2008; and our *fig. 4*, in Plate 26.

SPECIFIC CHARACTER.—Leaves erect, keeled, tortuous, blunt, about a line wide. Flower autumnal, yellow, sweet; tube long, limb shorter. (*W. Herb.*)

DESCRIPTION, &c.—A pretty little plant, with yellow flowers, which appear without the leaves in autumn, and which are very sweet-scented, having the fragrance of the jasmine. It is a native of the Crimea, especially



Iris sibirica L. *Iris sibirica* L. *Iris sibirica* L. *Iris sibirica* L.
Iris sibirica L. *Iris sibirica* L. *Iris sibirica* L. *Iris sibirica* L.
Iris sibirica L. *Iris sibirica* L. *Iris sibirica* L. *Iris sibirica* L.

near the Bosphorus; and it is also found wild on calcareous mountains in Hungary. It was introduced in 1816. The leaves do not wither till the fruit is ripe, and consequently they remain on the plant all winter. It has been hitherto generally treated as a frame bulb; but it will probably prove quite hardy in British gardens. There is a variety with smaller flowers, the limb of which is nearly as long as the tube, a native of Dalmatia.

2.—STERNBERGIA CLUSIANA, *Ker.* CLUSIUS'S STERNBERGIA.

SYNONYMES.—*Narcissus Persicus, Clus.*

SPECIFIC CHARACTER.—Leaves lorate, tortuous, glaucous, erect. Flowers autumnal. *W. Herb.*

DESCRIPTION, &c.—The flowers of this species are of a pale yellow, and they have a very unpleasant smell. It was first described by Clusius, who received it from Constantinople; it is quite hardy, and it appears to have been formerly cultivated in Britain, though it has probably been long lost. There are two other species mentioned in Mr. Herbert's *Amaryllidaceæ*, one of which is figured in that work, viz. *S. citrina* (fig. 9 in plate 42) with lemon-coloured flowers, a native of Greece; and *S. Ætensis*, found on Mount Ætna; but they do not appear to have been introduced.

GENUS III.

OPORANTHUS, *W. Herb.* THE YELLOW AMARYLLIS.

Lin. Syst. HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Bulb roundish; leaves hiemal; scape autumnal, 1-flowered. Spathe tubular, divided at the point; genera erect; tube short, erect, tending to funnel-shaped; limb regular; filaments

inserted in the tube below the limb, decurrent, conniving; anthers versatile; stigmas trifid; ovules roundish, irregularly angular by compression. (*W. Herb.*)

DESCRIPTION, &c.—This genus has been separated by the Hon. and Rev. W. Herbert from Sternbergia; there is only one species in British gardens, though there is another, *O. exiguus*, a native of Tangiers. The name of Oporanthus is derived from two Greek words signifying Autumn-flower.

1.—OPORANTHUS LUTEUS, *W. Herb.* THE YELLOW OPORANTHUS.

SYNONYMES.—*Sternbergia lutea, Ker*; *Amaryllis lutea, Linn.*; *Colchicum luteum majus, Bauh.*; *Narcissus autumnalis major, Clus.*; the greater autumn, or winter-flowering Daffodil, *Park.*; the yellow Colchicum.

ENGRAVINGS.—*Bot. Mag.* t. 290; and our *fig.* 3, in Plate 26.

SPECIFIC CHARACTER.—Perianth campanulate; tube shorter than the limb. Leaves ensiform.

DESCRIPTION, &c.—The flower of this species bears a strong resemblance to that of the yellow Crocus, for which, indeed, if it flowered at the same season, it might almost be mistaken. The leaves of the species are, however, much broader; and they are at first short, but lengthen gradually during winter, withering after the seeds have ripened in spring. There is a variety with narrow leaves. The flowers expand in October, and continue during a great part of November. Hill mentions a variety with double flowers. The bulbs are generally planted in spring, in the open garden, in any common soil, and left in the ground unmolested for several years: they are quite hardy, but they are sometimes apt to rot in spring, after the leaves have withered, if the season should be very wet. It is very ornamental when planted in beds with the autumnal Crocuses and the Colchicum, as they all flower at the same season; and it may be purchased in all the seed-shops, where it is generally called *Sternbergia lutea*, or sometimes the Yellow Colchicum, the latter being the name under which it is imported by the Dutch florists. It was introduced before 1597, and has been in cultivation ever since.

GENUS IV.

HAYLOCKIA, *W. Herb.* THE HAYLOCKIA.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Leaves linear; scape concealed, 1-flowered; spathe 1-valved, half concealed, divided upwards; germen concealed in the bulb; tube cylindrical, enlarged at the mouth; limb funnel-shaped below, semipatent upwards; filaments of alternate length, conniving, inserted in the segments of the limb, the sepaline at their base, the

petaline higher; anthers incumbent, versatile, attached in the middle; style erect; stigma deeply trifid, erect, with recurved points, concealed in the tube; capsule protruded on a short peduncle, round, 3-furrowed, 3-valved; seeds with a rounded back. (*W. Herb.*)

DESCRIPTION, &c.—Mr. Herbert has named this genus in honour of Mr. Matthew Haylock, who has had the care of Mr. Herbert's collection of plants at Spofforth, and previously at Mitcham, for more than two-and-twenty years. There is only one species of the genus known.

1.—HAYLOCKIA PUSILLA, *W. Herb.* THE DWARF HAYLOCKIA.

SYNONYME.—*Sternbergia Americana*, *Hoffmannsegg*.

ENGRAVINGS.—*Bot. Reg.* t. 1371; and our *fig.* 5, in Plate 26.

SPECIFIC CHARACTER.—Bulb small; leaves hiemal (wintery), very narrow; flower autumnal. (*W. Herb.*)

DESCRIPTION, &c.—A dwarfish plant, with dingy straw-coloured flowers stained with reddish purple. The leaves are hiemal, that is, they continue growing all the winter, and wither when the seed ripens in spring. The bulb is a native of the country near Buenos Ayres, where it is stated that there is a variety with pink flowers. It was introduced in 1829, and it appears to require protection during winter in British gardens.

GENUS V.

SCEPTRANTHUS, *Graham.* THE SCEPTRE-FLOWER.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Spathe membranous, tubular, split at the top, longer than the peduncle. Perianth funnel-shaped; limb contracted at the throat, shorter than the tube; segments of the limb

ovate, with revolute margins. Stamens six, enclosed. Capsule 3-sided, or almost 3-lobed; 3-celled. Seeds in two rows in each cell.

DESCRIPTION, &c.—This plant was divided from *Cooperia* by Dr. Graham, and made a distinct genus on account of "its less expanded limb, its shorter tube, and pedunculated germen;" but Mr. Herbert does not consider these distinctions sufficiently constant to be sufficient for making it a distinct genus. The name of *Sceptranthus* alludes to the sceptre-like appearance of the half-opened flower, which generally withers without fully expanding.

1.—SCEPTRANTHUS DRUMMONDI, *Graham.* DRUMMOND'S SCEPTRE-FLOWER.

SYNONYMS.—*Cooperia pedunculata*, *W. Herb.*; *Zephyranthes Drummondii*, *D. Don*.

ENGRAVINGS.—*Swt. Brit. Flow. Gard.* 2nd ser. t. 328; *Bot. Mag.*

t. 3727; and our *fig.* 1, in Plate 26.

SPECIFIC CHARACTER.—Leaves glaucous, rather broad. Spathe 1-flowered. Segments of the limb nearly equal.

DESCRIPTION, &c.—A very elegant flower with a much shorter tube than the *Cooperias*. The flower opens at night, and unless the day has been warm so as to occasion a great decrease in temperature, it only opens

imperfectly. The seeds are flat and black, and vegetate freely. The bulb is somewhat flattened. The species is a native of Mexico, whence it was introduced in 1835; and it will probably prove nearly hardy in British gardens, as the plants kept in a warm greenhouse did not thrive so well as those kept in a cool frame; and those kept in a stove did not expand their flowers at all.

GENUS VI.

ZEPHYRANTHES, *W. Herb.* THE ZEPHYRANTHES, OR SWAMP-LILY.

Lin. Syst. HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Leaves linear; scape 1-flowered; spathe 1-valved; germen sessile or pedunculated, erect; tube short, funnel-shaped; perianth sub-erect; faucial membrane inconspicuous, not annular, manifested (if at all) by six very minute points above the insertion of the filaments, which is at the base of the segments, just without the tube, the sepaline inserted a very little lower and shorter;

anthers sub-erect, versatile, attached below the middle, sloped. Stigma usually trifid, patent; capsule ovate, deeply 3-furrowed; seeds less numerous than in *Hippeastrum*; style generally declined, the opposite filament being averted. Leaves narrow, æstival, produced in the spring; flowers simultaneously, or later.

DESCRIPTION, &c.—Very elegant and beautiful lily-like plants, which were formerly included in the genus *Amaryllis*. They differ from *Sternbergia* and its allied genera in flowering in spring instead of autumn, in their enjoying a season of complete rest during winter, and also in the leaves rising with the flower; and they differ from *Cooperia* in the flower only expanding in the sun. They are all nearly hardy, and would probably all live in the open ground if they were planted in a bed of white sand or covered with dead leaves or litter for the first winter. As, however, dead leaves are apt to harbour snails, which destroy the bulbs, a safer mode of protection would be to cover the bed with a thatched roof of straw, or to make it slope sufficiently to keep it dry without any covering whatever. *Zephyranthes* signifies the Flower of the West Wind.

1.—ZEPHYRANTHES ATAMASCO, *W. Herb.* THE ATAMASCO LILY.

SYNONYME.—*Amaryllis Atamasco*, *Lin.*

ENGRAVINGS.—*Bot. Mag.* t. 239; *Lodd. Bot. Cab.* t. 1899; and our *fig. 3*, in Plate 27.

SPECIFIC CHARACTER.—Tube of the perianth short, with a campanulately-spreading limb. Segments acuminate. Spathe bifid.

DESCRIPTION, &c.—A very handsome and well-known plant, which has been in British gardens since 1680. It is a native of Virginia and Carolina, where it grows abundantly in the woods, and flowers splendidly in spring. In England, where the bulbs are generally grown in pots, the effect is not so good, from the flowers being produced singly; but even when thus treated, they are very beautiful, from the delicate carnation tint of the outside of the perianth, which tint fades into a pure white as the flower expands. The bulbs will thrive in the open air if planted like the *Gladiolus* and treated in the same manner (see p. 52); and, like many other kinds of bulbs, they will bear the open air in England quite well, if they are protected from excess of moisture the first year that they are planted out; but bulbs, before they have firmly established themselves in the ground, appear to be peculiarly susceptible of injury from damp. The soil should be a rich yellow loam; or if this be not to be procured, a mixture of turfy loam and sand may be substituted. The bulbs should be planted in October or November, and the flowers will appear in April, simultaneously with the leaves. There is a variety with somewhat smaller flowers. This species, and *Z. candida*, are as hardy as the common *Crocus*.

2.—ZEPHYRANTHES MESOCHLOA, *W. Herb.* THE HALF-GREEN ZEPHYRANTHES.ENGRAVING.—*Bot. Reg.* t. 1361.

SPECIFIC CHARACTER.—Bulb ovate, blackish. Leaves channelled,

acute. Scape becoming larger and thicker at the base while the seed is ripening. Spathe looped, or divided at the point.

DESCRIPTION, &c.—There are three varieties of this species: the first has the spathe looped at the extremity; in the second the peduncle is very short, and the flower is streaked with red; and in the third, the spathe is divided at the apex, and the flower is yellowish. The species is a native of Buenos Ayres, whence it was introduced in 1828. It flowers in June and July; and it produced three successive scapes “in the greenhouse at Spofforth, and ripened its seed.” It is generally grown in a mixture of peat and loam, or in turfy loam mixed with two-thirds of sand, and kept in pots in a greenhouse: but it would probably succeed in similar soil in the open air if planted on a sloping bank, and slightly protected during winter.

3.—ZEPHYRANTHES TUBISPATHA, *W. Herb.* THE TUBULAR-SPATHED ZEPHYRANTHES.SYNONYMES.—*Amaryllis tubispatha*, *Ker*; Mr. Griffin's *Amaryllis*.ENGRAVINGS.—*Bot. Mag.* t. 1586; and our *fig.* 2, in Plate 27.

SPECIFIC CHARACTER.—Leaves rather broad. Tube of the perianth very short, and rounded within by the bending of the base of the filaments.

DESCRIPTION, &c.—Very elegantly-shaped flowers, which never open widely, and which are white, becoming green at the base. The leaves are broader and shorter than in most of the other species, and they are sometimes rather glaucous. The species is a native of the Blue Mountains in Jamaica, and it is too tender to bear the open air in England. It should be grown in very sandy soil, and watered abundantly during summer; but it should be suffered to have a season of complete rest during winter, by water being withheld at that season. A very beautiful hybrid with pink flowers has been raised by the Hon. and Rev. W. Herbert, from *Z. tubispatha*, fertilised by the pollen of *Z. carinata*. This hybrid forms a curious intermixture of the qualities of its parents; the leaves are white, and distinguished by a keel like those of *Z. carinata*; while in the shape of the flower and in the greenness of the tube outside, it resembles *Z. tubispatha*. The limb is rose-coloured, and it is marked inside with white in the form of a star. A figure of it is given in the *Botanical Register*, t. 1746, under the name of *Z. Spofforthiana*. It is much hardier than *Z. tubispatha*.

4.—ZEPHYRANTHES CARINATA, *W. Herb.* THE KEELED-LEAVED ZEPHYRANTHES, OR SWAMP-LILY.SYNONYME.—*Z. grandiflora*, *Lindl.*ENGRAVINGS.—*Bot. Mag.* t. 2594; *Bot. Reg.* t. 902; *Swt. Brit. Flow. Gard.* 2nd ser. t. 4; and our *fig.* 1, in Plate 27.

SPECIFIC CHARACTER.—Leaves channelled, keeled. Spathe longer than the peduncle, slit partly on one side. Tube of the perianth much shorter than the limb; outer segments terminating in a sort of callous point.

DESCRIPTION, &c.—A very beautiful species, with rose-coloured flowers; a native of Mexico; which is quite hardy in British gardens, in situations where it can be kept dry. It should be grown in a light sandy loam, the proportion being three parts of sand to one of loam. The leaves are deeply channelled, and keeled on the back; and they are of a very dark green, tinged with red at the base. The flower-scape is also tinged with red at the base; and the spathe, which is of a reddish brown, is cleft at the extremity. The flowers are of a beautiful rose colour, the segments becoming green at the base, where they form the tube, and the three outer ones being tipped with a small callous point; when fully expanded they bend back, like those of the common Lily. The



1. *Zephyranthes aurea* 2. *Zephyranthes latifolia* 3. *Zephyranthes thymoides*
 4. *Alstroemeria peruviana* 5. *Alstroemeria aurea* 6. *Alstroemeria regina*

bulbs flower best in the open air; and if planted on a sloping bank in a sandy soil, they may remain several years in the ground without taking up. The flowers appear in August. Each bulb produces numerous offsets, which push their way through the ground at some distance from the parent bulb, making a circle round it, like layers from a stool, or as though the roots were stoloniferous. The specimen figured in the *Bot. Reg.* represents the flower unexpanded, as it only opens in bright sunshine. The leaves and bulb given in this plate were inserted by mistake, as they belong to another species (*Z. Lindleyana*), having a very small flower, as pointed out by Mr. Herbert in his *Amaryllidaceæ*, p. 173, and *fig. 5*, in Plate 35. The bulbs of *Z. carinata* are generally planted in March or April, and they flower in August; when planted in autumn care should be taken to keep them dry during winter. The species was introduced from Mexico, by Mr. Bullock, in 1825.

5.—ZEPHYRANTHES CANDIDA, *W. Herb.* THE WHITE ZEPHYRANTHES, OR PERUVIAN SWAMP-LILY.

SYNONYME.—*Amaryllis candida*, *Ker.*

ENGRAVINGS.—*Bot. Reg.* t. 724, and *Bot. Mag.* t. 2607.

SPECIFIC CHARACTER.—Tube of the perianth much shorter than the limb; segments obtuse. Leaves linear, fleshy.

DESCRIPTION, &c.—This is one of the hardiest kinds of *Zephyranthes*. Mr. Herbert says of it, “This plant, conspicuous by its fleshy, semicylindrical, and rush-like leaves, which resist the severest frost of our usual winters, has ripened its seeds, with me, after snow had lain upon them for three weeks. I have seen the quicksilver fifteen degrees below the freezing point (Fahrenheit), without its losing more than the ends of its leaves.” Notwithstanding this hardness, the plant is a native of Lima and Buenos Ayres; and the banks of the river Plata “are so covered with it, that it is understood that the river was called La Plata, meaning ‘silver,’ on account of the profusion of its white blossoms on the shore.” Mr. Herbert adds, that he has had “seventy flowers expanded at once on a small patch of this plant at Spofforth.” The flower of this species resembles that of a large white *Crocus*; and it always closes at night, only half opening even in the daytime in the shade, or if the air be damp, but expanding widely in broad sunshine when the atmosphere is warm and dry. The bulbs are small, round, and black; and the leaves, which are flat, fleshy, and quite erect, are produced in such numbers, that they look at a little distance like a bunch of rushes. The flowers begin to appear in July or August, and they continue rising in succession till October. If the weather in June and July should prove dry, the flowering season of this plant may be hastened by regular watering. It ripens seeds freely, and they are large, shelly, and of a glossy black; but the plant is best propagated by its offsets, which it produces in great abundance. Mr. Herbert thinks it probable that this species may form the type of a new genus, to which he proposes to give the name of *Argyropsis*.

6.—ZEPHYRANTHES ROSEA, *Lindl.* THE ROSE-COLOURED SWAMP-LILY.

ENGRAVINGS.—*Bot. Reg.* t. 821, and *Bot. Mag.* t. 2537.

SPECIFIC CHARACTER.—Leaves flat, and somewhat broad, spreading over the surface of the ground. Tube of the perianth short, with a

widely-spreading limb; segments oval, and terminating in a sharp point. Spathe fleshy, bifid at the apex.

DESCRIPTION, &c.—This species, which has rose-coloured flowers, was found at the Havannah by Mr. George Don, and introduced by him in 1823. It is nearly hardy, but it is generally kept in a greenhouse, on account of its small size and delicate flowers. It is grown in well-drained pots in sandy peat mixed with a little yellow loam. There is a variety, *Z. r. bifolia*, found in the woods of St. Domingo and Cayenne, which only differs from

the species in its leaves, which are produced two together, one of them being a foot long and the other only four inches ; a peculiarity which, as Mr. Herbert observes, probably only exists at "the moment of flowering." The flower-scape, however, is said to be somewhat more robust.

71.—ZEPHYRANTHES SESSILIS, *W. Herb.* THE SESSILE ZEPHYRANTHES.

ENGRAVING.—Bot. Mag. t. 2583.

SPECIFIC CHARACTER.—Leaves slender, semicylindrical, and tor-

tuous ; germen sessile ; outer segments of the limb somewhat smaller than the inner ones.

DESCRIPTION, &c.—There are three forms of this species—*Z. s. 1 verecunda*, *Z. verecunda*, Bot. Mag. t. 2583 ; *Z. s. 2 striata*, *Z. striata*, Bot. Mag. t. 2593, *Amaryllis minuta*, Humb. ; and *Z. s. 3 Akermanniana*. *Z. s. verecunda* has a rather small white flower, just faintly tinged with pink on the outside of the segments of the flowers in their upper part, and stained with green at the base ; *Z. s. striata* is a dwarf plant, with a very small flower, the outer segments of which are streaked with red on the outside ; and *Z. s. Akermanniana* is of a pure white inside, and red without ; it does not flower so freely as the other kinds, and it is more disposed to form offsets. They are all natives of Mexico, and were all introduced by Mr. Bullock in 1824. They may all be grown during summer in the open air ; and indeed, as Mr. Herbert observes, they "require no trouble, but to keep them dry in winter. They may be crowded in a small pot, stowed away anywhere dry, and set out of doors in May or June, when they will flower immediately ; or they may be kept in dry sand, and planted out in May in a border of sandy soil. Their flowers expand quite flat when the sun shines, and are produced abundantly, and every flower is followed by a seed-pod. The seedlings flower at an early age."—*Amaryll.* p. 175.

There are some other species of *Zephyranthes* mentioned by Mr. Herbert, but the above are the only kinds common in British gardens.

GENUS VII.

HABRANTHUS, *Ker.* THE HABRANTHUS.

Lin. Syst. HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Flower declined ; perianth short-tubed, sub-campanulate, not convolute, more or less patent ; alternate segments nearly equal ; filaments (properly of four lengths) inserted alike at the mouth of the tube, declined, recurved, semi-fasciculate ; faucial membrane (when manifested) annular. Anthers affixed at the middle,

incumbent, versatile. Style declined, recurved. Leaves linear-lorate ; umbel precocious, unequally pedunculated. Stigma 3-lobed ; capsule turbinate ; faucial membrane (as far as is known) never wanting.—(*W. Herb.*)

DESCRIPTION, &c.—The name of *Habranthus*, which is derived from two Greek words, signifying "delicate flowers," is applied to a genus of bulbous plants very nearly allied to *Zephyranthes* in appearance, but differing so much botanically, that Mr. Herbert found it impossible to raise any hybrid between the two genera. He observes that no *Habranthus* has yet been found with the leaf more than three-eighths of an inch wide, or without the faucial annular membrane. The flower of the *Habranthus* also rises after the dry season of rest, and is followed by the leaves, which remain on the plant through the winter, while the leaves of the *Zephyranthes* appear with the flowers and fade in the winter. Thus, though all the different kinds of *Habranthus* are quite hardy, yet as their leaves are in perfection during winter, they must be liable to injury unless they are protected in some manner. They also require, "in order to prepare their blossoms, a hot period of rest, which would be often

wanting to them if exposed to our climate. When cultivated in a border, they should be covered with a glass frame, to keep them hot and dry, in May, June, and July." Mr. Herbert adds that any covering of mats or straw that will prevent injury from severe frost, will be sufficient to protect them in winter; "or they may be taken up when the leaves decay, without breaking the fibres, kept in sand and re-set three months afterwards." He also advises the border in which they are grown to be well drained, with "a layer, six inches deep, of stones, covered with an inverted sod, or at least with heath, furze, or straw." The same system, he adds, may be adopted when the plants are grown in pots, by "placing a thin inverted sod, or some other covering, over the crocks or stones to prevent the drainage from becoming choked; and with that precaution stronger soil may be used than would suit otherwise, and less water will be necessary."

1.—HABRANTHUS GRACILIFOLIUS, Ker. THE SLENDER-LEAVED HABRANTHUS.

ENGRAVING.—Bot. Mag. 2464; Bot. Reg. t. 1967.

SPECIFIC CHARACTER.—Leaves very long and slender, nearly cylindrical, with a deep channel on the upper surface. Scapes numerous, and produced in succession; 1-2-flowered; much shorter than the

leaves. Spathe green, tubular, and slit at the point. Tube of the perianth furnished with a thick annular membrane; limb closing at night, and expanding widest in the sun: stigma trifid.

DESCRIPTION, &c.—The bulb is oblong and blackish; and there are four or five very long slender leaves, which are almost cylindrical, with a channelled line on the inner side. The flowers are without scent, and two or more are produced from each scape; they are pink, and close at night, expanding partially in the sun, but never opening fully; the tube is very short and green on the outside. The species is a native of Maldonado, in South America, whence it was introduced in 1823. It flowers in September and October; and as the leaves only appear in November, and continue on all the winter, it is generally kept in a greenhouse, though the plants appear hardy. The leaves decay about May or June. There is a variety which has been figured and described in the Bot. Reg. t. 1967, as *H. g. var. Boothianus*, which was sent to Sir Charles Lemon, from Maldonado, in 1836, which flowered at Carclew the following year, and which has rather darker and more open flowers. It was named in honour of Mr. Booth, who has long had the care of the plants at Carclew, and who states that he is inclined "to consider it as half-hardy, only requiring protection from frost. The soil round the bulbs, when received, was of a very sandy nature." Mr. Booth adds that the plant was grown at Carclew in a mixture of loam, peat, and sand; that it flowered in October, and that the flowers remained in perfection eight or ten days.

2.—HABRANTHUS ANGUSTUS, Ker. THE NARROW-FLOWERED HABRANTHUS.

SYNONYME.—*H. spatheceus* var. *W. Herb.*

ENGRAVING.—Bot. Mag. t. 2639.

SPECIFIC CHARACTER.—Segments of the perianth long, narrow; flower tapering towards the base. Spathe 1-valved, slit. Scape 1-2-flowered.

DESCRIPTION, &c.—This species is distinguished by the narrowness of all its parts, particularly of its flowers, which are never more than half opened. The leaves also are very long and narrow, and the bulb, though spherical when planted, became, after having been twelve months in the ground, curiously elongated into a kind of cylindrical underground stem, two inches long. The leaves are more erect than those of most of the other kinds. Mr. Herbert makes *H. angustus* a variety of *H. spatheceus*, which only differs from it in both the flowers and leaves being broader. Both kinds were imported from Buenos Ayres in 1825, and they require the same culture as the other species. They are not common in collections, though the names are in many of the bulb catalogues; and when cultivated they are generally grown in pots.

3.—HABRANTHUS VERSICOLOR, *W. Herb.* THE CHANGEABLE-COLOURED HABRANTHUS.

ENGRAVING.—Bot. Mag. t. 2485.

1-flowered, appearing before the leaves. Segments ovate, ending in a

SPECIFIC CHARACTER.—Leaves long, ovate, recumbent. Scape | sharp point, somewhat spreading.

DESCRIPTION, &c.—The bulb, which is oblong and blackish, shows a tendency to elongate itself in the same manner as that of the preceding species. The flowers, which are of a very delicate pink, slightly streaked with a darker colour, are produced singly, and the leaves are about a quarter of an inch wide and a foot long. The species is a native of Maldonado, whence it was imported in 1823. It is generally kept in a greenhouse, where it flowers in January, the leaves decaying in the course of the summer; and, like the other species, its flowering well is promoted by the bulbs being kept in a dry heat while in a state of rest. Mr. Herbert states that he was prevented from completing his observations on this species by his gardener having killed his bulbs of it, by watering them during the dormant season.

4.—HABRANTHUS BIFIDUS, *W. Herb.* THE TWO-CLEFT HABRANTHUS.

ENGRAVING.—Bot. Mag. t. 2597.

SPECIFIC CHARACTER.—Spathe 2-valved. Scape 4-5-flowered. Membrane annular.

DESCRIPTION, &c.—A very beautiful species from Buenos Ayres, whence it was imported, by Lord Carnarvon, in 1825. The flowers are of a dark rose colour, and are but very little opened. The bulb is large, round, and quite black. There is a variety of this species which Mr. Herbert calls *H. b. litoralis*, and which he supposes to be the same as the kind he formerly called *H. lorifolius*. This variety is five-flowered, and the flowers are of a deep purple. It was found in great abundance at Monte Video, within the tide-mark, and hence the name of *litoralis* which signifies “sea-side.” This plant had not flowered with Mr. Herbert at the period of publishing his work on the Amaryllidaceæ; as the bulbs appeared to waste their strength in producing offsets, and in elongating themselves, which they did to a very great length. “The bulbs of the species of Habranthus,” says Mr. Herbert, “are nearly round when imported. After having been potted a year, they generally become elongated, sometimes to the length of six inches, and constricted in one place or more. We suspect that this singular habit, which seems peculiar to the genus, is an effort of nature to withdraw the bulb to a greater depth, and that the long neck would become attenuated gradually if it remained undisturbed.” (*Bot. Mag.* vol. lii. t. 2597.) Mr. Herbert thinks it probable that this elongation of the bulb impedes the flowering of the plant; and he suggests using salt in the culture of the variety *H. bifidus litoralis*, as that bulb has hitherto only been found in situations washed by the sea, at high water.

5.—HABRANTHUS ROBUSTUS, *W. Herb.* THE ROBUST HABRANTHUS.SYNONYMS.—*Amaryllis tubispatha*, *L. Hérit.*; *A. Berteri*, *Spreng.*ENGRAVINGS.—*Swt. Brit. Flow. Gard.* 2nd Ser. t. 14; *Lodd. Bot. Cab.* t. 1761.

SPECIFIC CHARACTER.—Leaves sub-glaucous, channelled. Scape robust; scape undivided, two-thirds of its length, a little shorter than the peduncle. Flower large, much declined.

DESCRIPTION, &c.—This species Mr. Herbert believes to be the *Amaryllis tubispatha* of L' Héritier, which was a native of Buenos Ayres, and which ought not to be confounded with *Zephyranthes tubispatha*, a native of Jamaica, but which is figured as *Amaryllis tubispatha* in the Bot. Reg. This species, which is a native of Buenos Ayres, and was introduced in 1827, is the hardiest of all the kinds of Habranthus, and it may remain during the winter in the open ground, if planted in a warm dry border about six inches deep, and a flower-pot turned over it in frosty

weather. As, however, it is, in this case, very liable to be attacked by slugs and insects, and as it is very liable to be injured by moisture, Mr. Herbert recommends keeping them in the greenhouse during winter, and planting them out in spring. They generally flower in July, and in most situations they ripen seeds in abundance.

6.—HABRANTHUS BAGNOLDIANUS, *W. Herb.* CAPTAIN BAGNOLD'S HABRANTHUS.

ENGRAVINGS.—Bot. Reg. t. 1396; and our *fig. 6*, in Plate 27.

SPECIFIC CHARACTER.—Leaves glaucous, obtuse, nearly half an inch

wide. Scape 6-flowered. Segments of the limb ovate-lanceolate; faucial membrane annular, fimbriated.

DESCRIPTION, &c.—A very large black bulb, with a bunch of very handsome yellow flowers, slightly stained with red. The leaves are much broader than in most of the other species. The plant is a native of Chili, whence it was introduced in 1830; and it may be grown in the open air, in dry gravelly soil; as if it is kept too hot it will waste away, and it is very apt to rot if grown in a moist soil. Mr. Herbert lost his plants of this species by planting them "in a peaty compost." There is a variety, *H. B. 2 Gillesianus*, the flowers of which are much paler than those of the species, and the bulb about the size of a pigeon's egg. They are both natives of the same coast, and require the same kind of culture.

7.—HABRANTHUS ROSEUS, *Swt.* THE ROSY HABRANTHUS.

ENGRAVINGS.—*Swt. Brit. Flow. Gard. 2nd Ser. t. 107*; and our *fig. 5*, in Plate 27.

SPECIFIC CHARACTER.—Leaves glaucous. Flowers two, rose-coloured, green at the base, expanding wide; filaments conspicuously of four lengths. Faucial membrane not recorded. *W. Herb.*

DESCRIPTION, &c.—A very handsome plant with rich dark rose-coloured flowers, and long glaucous leaves. It is a native of the island of Chiloe, whence it was introduced in 1828. It flowers in June; and may be grown in the open air, in a dry situation, with a slight protection from frost during winter. It is somewhat interesting that bulbs of this plant and seeds of the beautiful *Oenothera ansiloba* were brought to England at the same time, and from the same place (Chiloe) by Lieutenant Barton, and given by him to Mr. Page, nurseryman of Southampton.

8.—HABRANTHUS ANDERSONI, *W. Herb.* ANDERSON'S HABRANTHUS.

ENGRAVINGS.—Bot. Reg. t. 1345; Lodd. Bot. Cab. t. 1677; Sweet Brit. Flow. Gard. 2nd Ser. t. 70; Bot. Mag. t. 3596; and Herb. Amaryllidaceæ, *fig. 4*, in Plate 26.

SPECIFIC CHARACTER.—Leaves narrow, linear, acute, green, or sub-

glaucous. Spathe tubular, divided upwards. Peduncle about an inch and a half long or more. Perianth golden or copper-coloured, streaked outwardly, and marked at the base within with reddish brown; faucial membrane annular. *W. Herb.*

DESCRIPTION, &c.—There are many varieties of this species, which appears to have a very extensive range in Mexico and South America. The species which Mr. Herbert calls *H. A. 1 aurea* is of a bright golden yellow, and is figured in Sweet's British Flower Garden and in Loddiges' Botanical Cabinet. *H. A. 2 cuprea* is of a dark copper colour; and this, and *H. A. 3 obscura*, which is of a dingy livid brown, are figured in the Botanical Register. *H. A. 4 brevilimba* has broader leaves and shorter flowers; *H. A. 5 parvula*, figured in Mr. Herbert's Amaryllidaceæ, has small dingy flowers; and *H. A. 6 Texana*, figured in the Botanical Magazine, has bright yellow flowers, with roundish obtuse segments. The first four of these varieties were introduced by Mr. Anderson, the botanical collector, in 1829, from Monte Video; the fifth was from Buenos Ayres; and the sixth was sent by Mr. Drummond from Texas. They are all nearly hardy, and may be grown in the open ground, with a

summer." There are two varieties: *A. B. 2 pallida*, which is paler than the species, and which is represented in the Botanical Register, t. 714—and also in our *fig. 3*, in Plate 28, under the name of *Belladonna purpureus pallida*; and *A. B. 3 latifolia*, which has broader leaves. The bulbs, which are very large, may be procured at any of the seed-shops, and they should be planted in July and August, in a very richly manured loamy soil, in front of a south wall, where they will flower abundantly. Mr. Herbert states that in a favourable season he has had nearly "two hundred stems rise in September, in thick patches," from bulbs planted about two feet from the front wall of a stove and greenhouse; but that they rarely flower well with him "in the middle of the garden."

2.—AMARYLLIS BLANDA, L. THE BLUSH LILY.

SYNONYME.—*Belladonna blanda*, *Svet.*

ENGRAVINGS.—*Bot. Mag.* t. 1450; and our *fig. 2*, in Plate 28, under the name of *Belladonna blanda*.

SPECIFIC CHARACTER.—Leaves lanceolate-lorate. Segments of the perianth obovate.

DESCRIPTION, &c.—The bulb of this species is nearly twice as large as that of the common *Belladonna* lily. The leaves are very large, the inner ones being about three feet high, and an inch and a half broad; and the outer ones, though shorter, still broader. The flower-scape is about three feet high, and nearly an inch in diameter at the base. The flowers are about four inches long in the bud. This magnificent plant is much more tender than the *Belladonna* lily, and the leaves, Mr. Herbert observes, "when cut by frost or drought at the points, will not continue to grow like those of that species." The bulbs should therefore be preserved in a greenhouse all the year; keeping them in an airy situation during winter, and hot and dry in summer, when the plants will flower magnificently in September. They are natives of the Cape of Good Hope, whence they were introduced about 1800. In the description of this plant in the Botanical Magazine, t. 1450, this species is said to have been grown by Miller in 1754; but this, Mr. Herbert informs us, is a mistake, as it is the pale variety of *Belladonna* that was grown by Miller, and found by Sir Joseph Banks. *A. Belladonna* and *A. blanda* are very distinct not only in their flowers but in their leaves, which in *Belladonna* are of a dull, dingy green, and not above half an inch broad, and much shorter than the scape; while the leaves of *A. blanda* are of a bluish or apple-green, two inches broad, and quite as long as the flower-stalk.

GENUS IX.

HIPPEASTRUM, *W. Herb.* THE KNIGHT'S STAR LILY.

Lin. Syst. HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth declined, tubed; tube abbreviated underneath; faucial membrane, when manifested, defective on the lower side (not annular, as in *Habranthus*), the upper sepal wider, the lower petal narrower; filaments declined, recurved, inserted in the tube

with gradations, the upper sepaline longer and inserted higher, the lower petaline shorter and inserted lower; style declined, removed; stigma trifid or triangular. *W. Herb.*

DESCRIPTION, &c.—This genus, which is called in Sweet's *Hortus Britannicus*, *Amaryllis*, consists mostly of stove-plants, from which an astonishingly great number of hybrids have been raised. *H. Johnsonii* and its numerous hybrids, and *H. vittatum*, are greenhouse plants; and the latter, Mr. Herbert tells us, lived out with him in Surrey, in the open ground, on the south front of his house, by protecting it with a heap of coal ashes



Lilium longiflorum *Lilium reginae* *Lilium longiflorum*

during winter, flowering well every year. All this genus are, however, extremely difficult to manage without the aid of a gardener; as they require a season of complete rest, by being kept in the cold during winter, and most of them should be removed to the stove to flower in spring. They also require great care in watering them, as they are very easily killed by either too much or too little water; and even at those seasons when abundance of water is required, they are often very seriously injured by want of sufficient drainage. For these reasons, I shall only describe two or three of the hardest species of this order.

1.—HIPPEASTRUM VITTATUM, *W. Herb.* THE RIBAND-FLOWERED KNIGHT'S STAR LILY.

SYNONYMES.—*Amaryllis vittata*, *L'Hérit.*; *Superb Amaryllis*.

ENGRAVING.—*Bot. Mag.* t. 129.

SPECIFIC CHARACTER.—Perianth funnel-shaped, with a long tube,

and a recurvedly spread limb. Segments pointed, and undulated at the margin. Spathe many-flowered.

DESCRIPTION, &c.—One of the most beautiful species of the genus, and decidedly the hardest. The flowers are white, beautifully striped with bands of bright rose colour, like a riband; and hence the specific name, *vittatum*, signifying dressed with ribands. There are two varieties; one with very broad glossy leaves, and the other with obtuse segments to the perianth. The species is a native of Lima, and it was introduced in 1769. It may be grown in the open ground, by protecting with a heap of cinders during winter; and it flowers in April or May. It rarely produces any offsets; but when flowered in a pot, and kept in a stove during its flowering season, it ripens abundance of seed.

2.—HIPPEASTRUM BREVIFLORUM, *W. Herb.* THE SHORT-FLOWERED KNIGHT'S STAR LILY.

ENGRAVINGS.—*Bot. Mag.* t. 3549; and our *fig.* 1, in Plate 29.

SPECIFIC CHARACTER.—Perianth campanulate; segments lanceolate, spreading, slightly wavy at the apex. Spathe many-flowered.

DESCRIPTION, &c.—The umbel, which is more compact than in most of the other species of the genus, is composed of six or eight widely-opened flowers, which have no fragrance. The flower-scape grows about three feet high, and the leaves are long and rather broad. It is a native of Buenos Ayres, whence it was sent home by Mr. Tweedie in 1835. It flowers in April, and though it has been hitherto kept in the stove, it appears likely to prove quite as hardy as *H. vittatum*. Both species should be grown in loam, enriched with vegetable mould; and both should have a season of rest by being kept dry during winter, and be liberally supplied with water in spring, when they are pushing their leaves.

3.—HIPPEASTRUM PSITTACINUM, *W. Herb.* THE PARROT HIPPEASTRUM.

SYNONYME.—*Amaryllis psittacina*, *Ker.*

ENGRAVING.—*Bot. Reg.* t. 199.

SPECIFIC CHARACTER.—Perianth campanulate, spreading; segments pointed, wavy at the margin. Spathe two-flowered.

DESCRIPTION, &c.—Very showy flowers, green, streaked and edged with red; and only two-flowered, instead of having six or more flowers forming a spreading umbel. The species is a native of Brazil, near Rio Janeiro; and it was introduced in 1814. It was first kept in the stove; but it is now found to be a hardy greenhouse or frame plant, only requiring protection from frost. Many beautiful hybrids have been raised between this species and *H. Johnsonii*; this last kind being itself a hybrid between the beautiful scarlet-flowered species *H. regium*, a native of Vera Cruz, which requires a stove in England, and *H. vittatum*, raised by a person named Johnson, who had a small garden at Mitcham in 1810. *H. Johnsonii* is a greenhouse species which requires rest during winter.

GENUS X.

SPREKELIA, *Heister*. THE JACOBÆA LILY.

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*Lin. Syst.* HEXANDRIA MONOGYNIA.

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| <p>GENERIC CHARACTER.—Perianth declined; tube scarcely any; upper segments reflex, lower sloped downwards, convolute at the base; filaments inserted equally, with a connecting membrane at the base of</p> | <p>the perianth, fasciculate, declined and recurved at the style; the upper sepaline and lower petaline shorter than the others. Anthers pendulous, affixed one-third from the top.—(<i>W. Herb.</i>)</p> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

DESCRIPTION, &c.—There is only one species known of this genus; the beautiful flower formerly known as *Amaryllis formosissima*. Its English name of the Jacobean lily was taken from its fancied resemblance to the flaming sword worn by the knights of the Spanish Order of St. Jago del Espada. The name of Sprekelia was first given to this genus by Heister, in his work on bulbous plants, published at Brunswick in 1753, in honour of Baron M. de Sprekelsen, for some time secretary to the Republic of Hamburg.

1.—SPREKELIA FORMOSISSIMA, *W. Herb.* THE BEAUTIFUL JACOBÆA LILY.

SYNONYMS.—*Amaryllis formosissima*, *Lin.*; *Narcissus indicus jacobæus*, *Clus.*

ENGRAVINGS.—*Bot. Mag.* t. 47; *Swt. Brit. Flow. Gard.* 2nd Ser. t. 144; *Redout, Lil.* t. 4; and our *fig.* 3, in Plate 29.

SPECIFIC CHARACTER.—Perianth six-parted, somewhat campanulate; segments acuminate; the three upper ones forming a kind of crown. Leaves ensiform.

DESCRIPTION, &c.—Clusius tells us in his *Historia Plantarum*, that he called this plant *Narcissus indicus jacobæus*, because its flower reminded his friend, Dr. Simon Tovar, of the crimson sword worn as a badge by the knights of the Spanish Order of St. James. The Order of San Jago del Espada was instituted in 1170, to stop the incursions of the Moors, the knights obliging themselves by their vow to secure the roads. They bore a crimson sword emblazoned on their shields, in memory of the victory gained by the Cid over the five Moorish kings, in 1045, when finding his army much smaller than that opposed to him, he prayed for aid to St. James, then considered the patron saint of Spain, when he and his soldiers were comforted by the vision of a flaming sword in the sky, which encouraged them so much that they marched on, and won a complete victory. The knights of this order were of the first families in Spain, and were obliged to give proof of their noble descent for four generations on both sides, being also obliged to prove that their ancestors were neither Jews, Saracens, nor heretics, and that they had never been accused by the Inquisition.

This beautiful plant is nearly hardy, and the bulbs may be left in the ground all the winter if they are planted in a dry soil, and sufficiently deep. The bulbs, when they are to be left in the ground all the winter, should be planted at least four inches deep in the ground; in general, however, it is safer to take up the bulbs, and to keep them dry all the winter like tulips. These bulbs will flower beautifully, like hyacinths, in glasses, and also they will flower, if hung up in a room, if they are kept moist, by wrapping moss round them. When planted either in pots or in the open ground, it should be in rich soil, and the bulbs should be kept dry during winter, and well watered just before they are going into flower in spring.



*Lilium reginae* (top), *Lilium longifolium* (bottom left), *Lilium tigrinum* (bottom right)





GENUS XI.

LYCORIS, *W. Herb.* THE GOLDEN LILY.

*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Leaves linear, hiemal; umbel many-flowered; germen declined; perianth with the tube declined, obsoletely triangular, wider at the mouth, and curved upwards; limb curved upwards; fila-

ments long, recurved, inserted equally at the mouth of the tube; anthers oblong, incumbent; style long, recurved, circumfimbriated near the summit; stigma simple. *W. Herb.*

DESCRIPTION, &c.—This genus is nearly allied to the Guernsey Lily, and Griffinia; but the species are natives of Eastern Asia, instead of South Africa. The flowers are very beautiful, and they are remarkable for their rich golden hue. The name of Lycoris is that of a Roman female, celebrated for her extravagance and her beauty.

1.—LYCORIS AUREA, *W. Herb.* THE GOLDEN LYCORIS.

SYNONYMES.—*Amaryllis aurea*, *L'Herit.*; *A. africana*, *Lam.*

ENGRAVINGS.—*Bot. Mag.* t. 409; *Bot. Reg.* t. 611; and our *fig.* 2, in Plate 29.

SPECIFIC CHARACTER.—Tube of the perianth short; segments lanceolate, undulated at the margin; erect for three fourths of their length, but reflexed at the tip.

DESCRIPTION, &c.—This very beautiful plant was introduced by the celebrated Dr. Fothergill, from China, in 1777. It is generally kept in a hothouse, but it will flower well in a greenhouse, so that it is allowed a season of rest, during which time it should be kept hot and dry. It flowers in Autumn, and it should be grown in a light sandy soil.

2.—LYCORIS RADIATA, *W. Herb.* THE RADIATED LYCORIS.

SYNONYMES.—*Amaryllis radiata*, *L'Herit.*; *Yuk-lan*, *Chinese.*

ENGRAVINGS.—*Bot. Reg.* t. 596; *Bot. Rep.* t. 93.

SPECIFIC CHARACTER.—Flowers numerous; tube of the perianth very short, segments long, narrow, undulated at the margin, and spreading widely from the base in a radiated manner.

DESCRIPTION, &c.—This species has flowers of a dingy crimson. It is a native of Japan, whence it was introduced in 1750. It is hardier than *L. aurea*, and will live in the open ground all the year. Both species are, however, improved by plunging the pot containing the bulb into a hotbed in spring, and keeping it dry till just before the flowering season, when it should be abundantly supplied with water. Both species are very apt to produce numerous offsets instead of flowers; and sometimes “the outer coat remains entire, so that they appear like one bulb, with numerous leaves; a closer inspection, however, shows that they consist of several bulbs, with three leaves to each bulb.” (*Bot. Reg.* vol. 7.)

GENUS XII.

PYROLIRION, *W. Herb.* THE FLAME LILY.

*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Leaves attenuated at both ends; scape one-flowered; germen sessile; tube cylindrical, erect; limb campanulate, with reflexed points. Filaments equal, or alternately equal, sub-erect,

patent; anthers versatile; style erect or reclining; stigma trifid. *W. Herb.*

DESCRIPTION, &c.—This genus has tube-shaped flowers, bearing considerable resemblance to those of the Zephyranthes in shape, but differing widely in colour. The name of Pyrolirion is compounded of two Greek words, signifying fire-lily. The species are both natives of Peru; and they require protection in England during winter.

1.—PYROLIRION AUREUM, *W. Herb.* THE GOLDEN FLAME LILY.

SYNONYMES.—*Amaryllis aurea*, *Ruiz et Pavon*; *A. tubiflora*,  
*L'Herit.*; *A. peruviana*, *Lam.*

campanulate, with the mouth of the tube scaled; style scarcely exceeding the filaments.

SPECIFIC CHARACTER.—Bulb beset with blind offsets. Perianth

DESCRIPTION, &c.—This species is common in the corn-fields and hedges in Peru, and it is there called *Hamanco de Antibo*, that is, Satiny Hamanco. It flowers in January and February. It has been confounded with *P. flavum*, and *P. flammeum*, from which it is, however, quite distinct. Mr. Herbert thus characterises the three species:—" *Aureum*, with large golden flowers, style little exceeding the filaments, and faucial scales longer; *flammeum*, with smaller flowers, fiery orange, and crenate scales; and *flavum*, with paler flowers, larger style, and short scape."

2.—PYROLIRION FLAVUM, *W. Herb.* THE YELLOW FLAME LILY.

SYNONYME.—*P. aureum*, *Bot. Reg.*

ENGRAVINGS.—*Bot. Reg.* t. 1724; and our *fig.* 4, in Plate 29.

SPECIFIC CHARACTER.—Scape short, tube smooth, filaments much shorter than the style, stigma trifid.

DESCRIPTION, &c.—Very little is known of this plant, except that it flowered in the year 1834, in the collection of Richard Harrison, Esq. at Liverpool. Its flowers appear in April, and its season of rest is the summer.

## GENUS XIII.

NERINE, *W. Herb.* THE GUERNSEY LILY.

*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Tube none, except an annular connexion; limb reflexed; filaments with a gibbous monadelphous base; stigmas ultimately trifid. (*W. Herb.*)

DESCRIPTION, &c.—The beautiful plants comprized in this genus were formerly considered to belong to *Amaryllis*; but they have been separated by Mr. Herbert, on account of some very striking differences in the construction of the flower. The principal of these is that the flowers have no tube, except a narrow ring which merely serves to join the segments of the perianth together, and to the filaments, which are dilated and united at the base so as to form a kind of cup, which is often full of liquid. The flowers of all the species, to the eye of the general observer, are strikingly like those of the common Guernsey lily; but Mr. Herbert has divided them into two sections, viz., those with the flowers regular, and those with the flowers distorted; and these are again divided into those with a centripetal, and those with a centrifugal inflorescence. As these terms may not be generally understood, I may mention that Mr. Herbert calls that a centripetal inflorescence when the flowers in the centre of the umbel expand first; while the centrifugal inflorescence is where the outer flowers open first. Mr. Herbert called the genus *Nerine* (the name of a sea-goddess), in allusion to the habit of the species in growing freely in sea-sand, and in situations exposed to the sea. With regard to the culture of these plants, which is generally thought very difficult, Mr. Herbert makes the following observations.

"To promote the flowering of the *Nerine*s, a vigorous growth of leaf must be encouraged in the autumn; the requisites are, warmth enough to excite them, and air enough to prevent their growing weak. During the winter they must not be allowed to lose their foliage either by frost or drought. About May they should be allowed to rest, by ceasing to water them. After three months' rest, they may be watered again to promote their growth, at the very beginning of September." (*Amaryll.* p. 286.)

## SECTION I. PERIANTH REGULAR.

## SUB-SECTION I. INFLORESCENCE CENTRIPETAL.

1.—NERINE CURVIFOLIA, *W. Herb.* THE CURVED-LEAVED GUERNSEY LILY.

SYNONYMS.—*Amaryllis curvifolia*, *Jaog.* *A. Fothergillia*, *Andr.* ;  
glaucous-leaved *Amaryllis*.

ENGRAVINGS.—*Bot. Rep.* t. 163 ; *Bot. Mag.* t. 725.

SPECIFIC CHARACTER.—Leaves glaucous ; linear-lorate, obtuse.  
Umbel few-flowered. Segments of the perianth very slightly undulated  
at the margin. Cells of the fruit 8-seeded.

DESCRIPTION, &c.—The bulb, like that of all the other species, is tunicated ; and the inner covering is nearly as fine as a cobweb, though the outer covering is thick and crustaceous. The flower-stalk is round, and longer than the leaves, which are rather broad, glaucous, and depressed in the middle, ending in a somewhat blunt point. The flowers are large and of a bright glittering scarlet, but without scent. It is a most abundant flowerer, especially if planted in the open air against the front wall of a greenhouse. It produces plenty of seed, the cells being 8-seeded ; but the seedlings do not flower till they are eight or nine years old. This species was brought to England from the Cape in 1788, and was first grown at Kew ; but there is a gardening tradition that bulbs of it were also received from Japan by Dr. Fothergill, though there seems no rational ground for such a rumour. When grown in the greenhouse, or in the open air, it flowers in September ; but by keeping it in a stove, and giving it alternate seasons of excessive drought and moisture, it may be made to flower in any other month. It should be grown in light sandy soil, and when planted in the open air, the bulb should be covered at least four inches deep with soil. The leaves should be carefully preserved during the winter ; as even when injured at the point, they possess the power of maturing the bulb.

2.—NERINE CORUSCA, *W. Herb.* THE BRILLIANT GUERNSEY LILY.

SYNONYMS.—*Amaryllis humilis*, var *β.*, *Ker.* ; Salmon-coloured  
*Amaryllis*.

ENGRAVING.—*Bot. Mag.* t. 1089 ; and our *fig.* 1 in plate 30.

SPECIFIC CHARACTER.—Leaves dark green, lorate-lanceolate. Umbel  
many-flowered ; flowers large. Segments of the perianth very much  
undulated at the margin. Cells of the fruit few-seeded.

DESCRIPTION, &c.—This species is remarkable for its large umbels of salmon-coloured flowers, but it is not by any means a free flowerer. It was introduced in 1809 ; and it is generally kept in the greenhouse. It is, however, by no means common in collections.

## SUB-SECTION II.—INFLORESCENCE CENTRIFUGAL.

NERINE VENUSTA, *W. Herb.* THE BEAUTIFUL GUERNSEY LILY.

SYNONYMS.—*Amaryllis venusta*, *Ker.* ; the poppy-coloured  
*Amaryllis*.

VARIETY.—*N. V. minor*.

ENGRAVING.—*Bot. Mag.* t. 1090.

SPECIFIC CHARACTER.—Leaves linear-lorate ; somewhat concave.  
Segments of the perianth oblong-lanceolate. Stigma obsoletely three-cleft.

DESCRIPTION.—This plant so very nearly resembles the common Guernsey lily, that Mr. Herbert in his *Amaryllidaceæ* has made the latter only a variety of *N. venusta*. I have, however, kept them distinct, as Mr. Herbert first described them ; because there is so much to be said of the culture of the Guernsey lily, that I thought it might confuse my readers to find that popular plant under a name which is comparatively so little known as *N. venusta*. This last plant is a native of the Cape, whence it was introduced in 1806. It flowers rather earlier than the common Guernsey lily ; and, unlike that plant, its flowers are produced with its leaves. It frequently



ripens seeds, which are somewhat larger than those of the common mustard. The variety *N. v. minor*, Mr. Herbert calls "a beautiful miniature of *N. venusta*," which flowers pretty freely. He adds that he has had it about twenty-five years, but that it has never been figured. The colour is a deep red.

#### 4.—NERINE SARNIENSIS, *W. Herb.* THE COMMON GUERNSEY LILY.

SYNONYME.—*N. venusta*, 2 *sarniensis*, *W. Herb.*; *Amaryllis sarniense*, *Lin.*; *Lilium sarniense*, *Dougl.* *Narcissus japonica*, *Com.*  
 ENGRAVINGS.—*Bot. Mag.* t. 294; and our *fig.* 2, in Plate 30.

SPECIFIC CHARACTER. — Leaves hiemal, linear-lanceolate, erect. Segments of the perianth lanceolate. Style much longer than the filaments.

DESCRIPTION, &c.—The flowers of the common Guernsey lily are almost as well known as those of the hyacinth; but most persons buy the bulbs as they are imported from Guernsey, in the months of July and August, when the flower-stems are just beginning to appear, and throw the bulbs away as soon as they have done flowering. This is done because the bulb produces its flowers before its leaves; and few people are aware of the necessity of nourishing the plant with as much care while it is in leaf, as was done while it was in flower. I have already mentioned that bulbs are renewed every year; and that every season, as soon as the flowers fade, the old bulb gradually wastes away, and a new bulb forms in its place, from the feculent matter deposited from the sap, after it has been matured in the leaves. As the sap requires to pass through the leaves before it becomes in a fit state to form a new bulb, it is evident that the leaves should be left on the plant till they decay naturally. In preserving the leaves lies the great secret of all bulb culture; but when the leaves are hiemal, that is, produced in winter, the difficulty is increased by the almost impossibility of preserving the leaves from frost, and yet affording them sufficient air (see p. 120). The following remarks by the late T. A. Knight, Esq., relate to this subject.

"Bulbous roots increase in size, and proceed in acquiring powers to produce blossoms, only during the periods in which they have leaves, and in which such leaves are exposed to light; and these organs always operate most efficiently when they are young, and have just attained their full growth. The bulb of the Guernsey lily, as it is usually cultivated in this country, rarely produces leaves till September, or the beginning of October, at which period the quantity of light afforded by our climate is probably quite insufficient for a plant which is said to be a native of the warm and bright climate of Japan; and before the return of spring its leaves are necessarily full grown and nearly out of office, even when they have been safely protected from frost during the winter. Is it therefore extraordinary that a bulb of this species, which has once expanded itself in producing flowers, should but very slowly recover the power of blossoming again? Considering, therefore, the deficiency of light and heat, owing to the late period of its vegetation, as the chief cause why this plant so often fails to produce flowers, I inferred, that nothing more would be required to make it blossom freely, at least as it does in Guernsey, than such a slight degree of artificial heat, applied early in summer, as would prove sufficient to make the bulbs vegetate a few weeks earlier than usual in the autumn."

Mr. Knight then proceeds to give the results of his experiments, from which it appears that he succeeded in making a Guernsey lily, which had flowered in autumn, produce flowers again two years afterwards in July. If, however, the Guernsey lily be planted in a sandy soil, on a bank sloping to the sun, and sheltered behind by a wall, it will generally mature its leaves sufficiently to form its new bulbs without any artificial heat; and in favourable situations it will flower every summer as freely as it does in the open air in Guernsey. The best situation is the border in front of a greenhouse, in which the bulbs should be planted during their season of rest, which lasts from the beginning of May to the end of July. The soil should be a very sandy loam, enriched with vegetable



1. *Nerine variegata* 2. *Nerine variegata* 3. *Nerine variegata*

From the collection of the Rev. Dr. J. J. J.





mould, or the remains of an old hotbed ; and where expense is not an object, a pit two or three feet deep may be dug, and a quantity of rubbish being laid at the bottom, the upper part may be filled up with sandy loam and leaf mould, or rotten dung. The rubbish will ensure drainage, and the plants may thus be easily kept warm and dry during summer, which is the best means of securing their abundant flowering in Autumn. In general, Guernsey lilies are grown in pots, in a compost of peat and sand ; the bulb being purchased in the seed-shops, in July or August, and thrown away after it has flowered in September.

This species is said by Thunberg and Kœmpfer to be a native of Japan, where it is called Seki-san, and where its bulbs are considered poisonous. The reason it is called the Guernsey lily is thus given by Dr. Douglas in his monograph. "The introduction of this plant into England happened by a very melancholy accident, of which Dr. Morrison, who no doubt had it from some person then residing in Guernsey, gives us the following account. A Dutch or English ship, it is uncertain which, coming from Japan with some of the roots of this flower on board, was cast away on the island of Guernsey. The roots were thrown upon the sandy shore, and so by the force of the winds and waves were soon buried in the sand. They remained there for some years, and afterwards, to the great surprise and admiration of the inhabitants, the flowers appeared in all their pomp and beauty." This story sounds very doubtful, but whether it be true or not, it is certain that for nearly two hundred years this plant has been cultivated on a very extensive scale in the open air, in Guernsey ; and that large importations of the bulbs are made from that island every year, to supply the London market. It is stated in the *Hortus Kewensis* that the plant flowered in Paris, in October, 1634 ; and that it was cultivated by General Lambert at Wimbledon, in 1659.

#### 5.—NERINE ROSEA, *W. Herb.* THE ROSY GUERNSEY LILY.

SYNONYME.—*N. venusta* 3 rosea. *W. Herb.*

ENGRAVING.—*Bot. Mag.* t. 2124.

SPECIFIC CHARACTER.—Leaves broadly lorate, nerves striated, lying

flat on the ground. Segments of the perianth contracted at the base, revolutely spreading. Stamens and pistil erect, fasciculated, and very long. (*W. Herb.*)

DESCRIPTION, &c.—"This species," says Mr. Herbert, in the *Botanical Magazine*, "was found wild at the Cape, and the imported bulb flowered at Spofforth, in 1815. The flowers are much larger than those of *N. sarniensis*, and of a more brilliant rosy red ; the style and filaments are much longer ; the leaves wider, more fleshy, of a dark green colour ; the nervous striæ much stronger, and when held to the light are seen to be interrupted by cross bars ; they lie flat upon the ground, and are not erect, as in *N. sarniensis* (*Bot. Mag.* vol. 47, t. 2124). The species is a native of the Cape, and requires the same culture as *N. sarniensis*.

### SECTION II.—PERIANTH DISTORTED.

#### SUB-SECTION I.—INFLORESCENCE CENTRIPETAL.

#### 6.—NERINE FLEXUOSA, *W. Herb.* THE FLEXIBLE NERINE.

SYNONYMES.—*Amaryllis flexuosa*, *Jacq.* ; Pustulous-leaved *Amaryllis*.

ENGRAVING.—*Bot. Reg.* t. 172.

SPECIFIC CHARACTER.—Umbel few-flowered, loose. Leaves lorate, obtuse, and covered with minute pustulous dots. Segments of the perianth narrow, recurvedly-divaricate, undulated. Perianth, filaments, and style curved upwards.

DESCRIPTION, &c.—This species is very distinct from the preceding ones ; and it is distinguished by the segments of its perianth being generally turned upwards, while the filaments and style, which are left projecting,

curve towards the point in the same direction. The leaves are still more remarkable, as they are covered, particularly on the under side, with numerous small pustules. The umbel contains but few flowers, and these are loosely disposed. The peduncles are rigid and yet very brittle. The species is a native of the Cape of Good Hope, whence it was introduced in 1795; and it is generally treated as a hardy greenhouse or frame bulb. It may, however, be grown in the open air, with the same treatment as directed for *N. sarniensis*.

#### 7.—NERINE PULCHELLA, *W. Herb.* THE PRETTY NERINE.

ENGRAVING.—Bot. Mag. t. 2407.

SPECIFIC CHARACTER.—Leaves glaucous, without pustules. Segments

of the perianth very narrow, not spreading. Umbel few-flowered. Scape long.

DESCRIPTION, &c.—This is perhaps the least beautiful of all the kinds of Nerine. The flowers are few, and of a very pale dingy pink, striped with a somewhat darker colour. The bulb is tinged with purple and green, and the leaves are glaucous. The peduncles of the flowers become elongated as the flowers decay. This species, Mr. Herbert observes, is often confounded with *N. humilis*, though the latter is a very distinct plant. The present species is most nearly allied to *N. flexuosa*. It is a native of the Cape, whence it was introduced about 1820. Its culture is the same as that of the other species, and it should be kept very hot and dry during its season of rest.

#### 8.—NERINE LUCIDA, *W. Herb.* THE LUCID NERINE.

SYNONYMES.—*Amaryllis laticoma*, *Ker*; *Brunsvigia laticoma*, *W. Herb.*; Prince Leopold's *Amaryllis*.

ENGRAVINGS.—Bot. Reg. t. 497; and our *fig.* 2, in Plate 31, under the name of *Brunsvigia laticoma*.

SPECIFIC CHARACTER.—Leaves linear-lorate; umbel many-flowered; flowers divaricate; stamens and pistils longer than the perianth, and curved upwards.

DESCRIPTION, &c.—This very handsome plant is a native of the Cape of Good Hope, whence it was brought to England in 1818; and it flowered for the first time at Claremont, in 1820. It was first described in the Botanical Register by Mr. Bellenden Ker, as an *Amaryllis*; it was then mentioned by Mr. Herbert in the Botanical Magazine, as a Nerine; but that gentleman was afterwards induced, by examining a dry specimen, to suppose it a *Brunsvigia*. When, however, he saw the flowers in a living state, and the fruit, he found that they agreed in all respects with Nerine. "The only peculiarity it has," says Mr. Herbert, when speaking of this species in his *Amaryllidaceæ*, "is that after a period of rest, its old leaves are more disposed to push again, but I find other species of Nerine capable of elongating their leaves after the ends have been injured, which a *Brunsvigia* cannot do." (*Amaryll.* p. 286.)

This species, in its native country, grows near the snowy mountains, and consequently it appears able to resist a considerable degree of cold; indeed when it is cut by frost in winter, it "seems more disposed to grow whenever it can, pushing out afresh the leaves, of which the tips have been damaged, whether by drought or frost. I believe," continues Mr. Herbert, "that its native situation is refreshed in the hot season by frequent thunder-storms, so that it has not the decided term of rest, which the dry season forces upon its congeners in the lower country." The peculiarities above-mentioned render the culture of this species different to that of most other bulbous plants.

## SUB-SECTION II.—INFLORESCENCE CENTRIFUGAL.

9.—NERINE HUMILIS, *W. Herb.* THE DWARF NERINE.

SYNONYMS.—*Amaryllis humilis*, *Jacq.*; the divaricate-petaled *Amaryllis*.

ENGRAVINGS.—*Bot. Mag.* t. 726; and our *fig.* 3, in Plate 30.

SPECIFIC CHARACTER.—Leaves linear, obtuse. Umbel few-flowered. Segments lorate, divaricate.

DESCRIPTION, &c.—The leaves are very narrow, somewhat channelled, and rounded at the point, and the flowers have their segments very narrow, and very wide apart; which gives a very light, feathery appearance to the plant. This species is nearly allied to *N. undulata*; and indeed the two plants are often confused together in the nurseries, and they are both frequently called *Amaryllis crispa*, though that is the name of a very distinct species. It is a native of the Cape, but the year of its introduction is unknown. The bulbs are generally planted in pots, and kept in a greenhouse.

10.—NERINE UNDULATA, *W. Herb.* THE UNDULATED NERINE.

SYNONYMS.—*Amaryllis undulata*, *Linn.*; Waved-flowered *Amaryllis*.

ENGRAVING.—*Bot. Mag.* t. 369.

SPECIFIC CHARACTER.—Leaves lorate, acuminate. Segments of the perianth very narrow, and very much undulated.

DESCRIPTION, &c.—The flowers of this plant bear considerable resemblance to those of *N. humilis*; but they are still more curious, as they are very narrow, and very much waved, or rather crisped. The flowers are of a very dark rose-colour; but they are more curious than beautiful. The species is a native of the Cape, and was introduced in 1767. It is generally kept in a greenhouse; and it is propagated by offsets, which are produced in great abundance.

Besides these species, there are innumerable varieties and hybrids of the Guernsey lily, most of which may be procured in the seed-shops and nurseries.

## OTHER SPECIES OF NERINE.

To the above may be added *N. marginata*, *W. Herb.*, a plant which has been supposed successively to belong to *Amaryllis*, *Brunsvigia*, and *Imhofia*, and which probably may prove the type of a new genus. At present it is only known to Europeans by the figure and description of Jacquin. "In his plate," says Mr. Herbert, "it differs from all other species of *Nerine* in having broader leaves, with a red margin and a short blunt spathe, in which respect it approximates more to *Brunsvigia*. The inflorescence differs in no respect from that of *N. curvifolia*, except being less undulated." Mr. Herbert adds, Jacquin mentions that the plant in question had a fetid smell; and that he found *N. curvifolia* acquire a similar smell when exposed to great heat from the sun, while in the stove. "This circumstance," he continues, "is decisive as to the near affinity of the two plants; and I have no hesitation in saying that it is a *Nerine*." (*Amaryll.* p. 285.)



## GENUS XIV.

CHORETIS, *W. Herb.* THE CHORETIS.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Tube nearly straight. Limb reflex. Filaments erect, conniving. Anthers long, attached by a callosity above the middle, pendulous from the first. Seeds short, oblong. (*W. Herb.*)

DESCRIPTION, &c.—Mexican plants, nearly allied to *Crinum*. The name of Choretis, which signifies vigorous, was given to this genus by Mr. Herbert, in allusion to its free habit of growth.

1.—CHORETIS GLAUCA, *W. Herb.* THE GLAUCOUS CHORETIS.

ENGRAVINGS.—Fl. Cab. t. 101; and our *fig. 1*, in Plate 32.

SPECIFIC CHARACTER.—Bulb covered with a black membrane. Leaves erect, glaucous, more or less obtuse. Scape round, 3-4-flowered.

Anthers recurved at both ends. Cells 2-seeded. Seeds large, glaucous, smooth.

DESCRIPTION, &c.—A Mexican plant, introduced in 1837, with glaucous leaves, about two inches and a half broad, and a foot and a half long. The flowers are large and white; and the seeds, which have been produced in this country, are large, smooth, and glaucous. The species “is a greenhouse plant, liking a very sandy soil, and perfect rest in the autumn and winter, approaching in habit to *Ismenè*, but in the perianth to *Hymenocallis rotata*.” It is grown in well-drained pots, in a mixture of sand, loam, and peat, the sand predominating; and great care must be taken to water it regularly and equally during the flowering season. The seeds were obtained at Spofforth, “by cutting off the rind of the germen, and laying open the cells, and though two of the ovules had a slice cut off in the operation, they did not suffer from the loss, and their growth seemed facilitated by the removal of the rind, which they must otherwise have burst.” These were afterwards sown, and produced bulbs under ground, which did not throw up leaves till the following year. The flower appears in August, when the leaves, which were before erect, become bent back. The flower-scape, also, bends “downwards every night, but resumes its erect position during day, while the flowers last.”

## GENUS XV.

IXIOLIRION, *W. Herb.* THE IXIOLIRION.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Stalk bracteate, with peduncles axillary or terminal, 1-2-flowered. Germen oblong, erect. Perianth deeply cleft, regular, half-patent. Alternate segments equal. Filaments straight, inserted at the base of the segments, alternately equal. Anthers versatile. Style straight. Capsule oblong, striped, 3-celled, 3-valved. Seeds numerous, oval-oblong. (*W. Herb.*)

DESCRIPTION, &c.—Slender and elegant plants, with pale blue flowers. The name of Ixiolirion signifies Ixia Lily.

1.—IXIOLIRION MONTANUM, *W. Herb.* THE MOUNTAIN IXIOLIRION.

SYNONYMS.—*Amaryllis montanum*, *Labill.*; *Alstrœmeria montana*, *Ker.*

ENGRAVINGS.—Red. Lil. t. 241; Herb. Amaryll. *fig. 2*, pl. 20.

SPECIFIC CHARACTER.—Inflorescence partly spiked.

DESCRIPTION, &c.—This species is a native of Syria, whence it was introduced in 1829. It is quite hardy, and only requires planting in the open border, in a dry open situation.



1 *Chionodoxa glauca* - 2 *Euroloma tartaricum* 3 *Embryonaria*

from the East of Europe





2.—IXIOLIRION TATARICUM, *W. Herb.* THE TARTARIAN IXIOLIRION.SYNONYME.—*Amaryllis tatarica*, *Pall.*VARIETY.—*I. t. 2. Scythica*, *W. Herb.* ; *Amaryll. fig.* in Pl. 20.ENGRAVINGS.—*Herb. Amaryll.*, Pl. 19 ; and our *fig. 2*, in Plate 32.

SPECIFIC CHARACTER.—Flowers terminal.

DESCRIPTION, &c.—A very elegant little plant, with long slender leaves, and terminal tufts of pale blue flowers. The flowers of the variety are much smaller, and of darker blue. Both the kinds are quite hardy, and flower in early spring. The species was introduced in 1820.

## GENUS XVI.

STRUMARIA, *Ker.* THE STRUMARIA.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Umbel many-flowered, pedunculated. Spathe 2-valved. Perianth regular. Tube none, except an annular connexion. Filaments connected at the base, the alternate filaments generally more

or less adnate to the style in proportion to its thickness. Anthers incumbent. Style strumous (that is, enlarged below), angular, furrowed. Stigma trifid. Seeds roundish, few. (*W. Herb.*)

DESCRIPTION, &c.—The genus *Strumaria* was formerly much more extensive than it now is, as it comprised most of those now considered to belong to the genus *Imhofia*. The word *Strumaria* is derived from *Struma*, a wen, in allusion to a gibbous callosity at the base of the style. The genus, in the botanical construction of its flowers, is very nearly allied to *Nerine*.

1.—STRUMARIA ANGUSTIFOLIA, *Willd.* THE NARROW-LEAVED STRUMARIA.

SPECIFIC CHARACTER.—Leaves narrow, sub-acute. Style with three bifid processes, a little longer than the filaments, of which three are free, and three connate with the style. (*W. Herb.*)

DESCRIPTION, &c.—The flowers, which are white lined with red, are produced in April and May ; and the species is a native of the Cape of Good Hope, whence it was introduced in 1795. It should be grown in sandy soil, and slightly protected during winter.

2.—STRUMARIA TRUNCATA, *Willd.* THE TRUNCATE STRUMARIA.

SPECIFIC CHARACTER.—Leaves obtuse. Filaments shortly connate, three adhering to the style. (*W. Herb.*)

DESCRIPTION, &c.—The leaves of this species are about half an inch wide, and obtuse at the point. The flower-spathe is lined with red ; and the flowers themselves are white, tinged with red at the base, and in the bud. The species is a native of the Cape, whence it was introduced in 1795. It flowers in April and May, and requires a slight protection during winter. The bulbs of all the species should be planted in October.

3.—STRUMARIA RUBELLA, *Willd.* THE RED STRUMARIA.

SPECIFIC CHARACTER.—Filaments cylindrically connected half their length ; three connected with the style. (*W. Herb.*)

DESCRIPTION, &c.—The leaves are only about a quarter of an inch wide ; and the flowers are red. This species was introduced from the Cape with the preceding two, in 1795 ; but it flowers rather later in May and June.

## 1.—STRUMARIA LINGUÆFOLIA, Willd. THE TONGUE-LEAVED STRUMARIA.

SPECIFIC CHARACTER.—Leaves short, obtuse. Filaments connected at the bottom with the perianth; three connected with the style. (*W. Herb.*)

DESCRIPTION, &c.—The leaves are about half an inch wide, and somewhat tongue-shaped; and the flowers are white, lined with green. The species is a native of the Cape, and was introduced in 1812.

## 5.—STRUMARIA UNDULATA, Willd. THE WAVY STRUMARIA.

SPECIFIC CHARACTER.—Leaves narrow, sub-acute. Flowers undulated; filaments shortly connected at the base, all free from the style. (*W. Herb.*)

DESCRIPTION, &c.—The leaves are long, narrow, and sub-acute; and the flowers, which are undulated at the margin, are white, tipped with red. The species is a native of the Cape, but it seems hardier than the other kinds; and it continues in flower from April to August. It may be left in the open ground for several years, if planted in a dry, well-drained soil, or slightly protected from heavy rains.

## GENUS XVII.

HESSEA, *W. Herb.* THE HESSEA.

*Lin. Syst.* HEXANDRIA MONOGYNIA.

|                                                                                                                                                                                                                |                                                                                                                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| <p>GENERIC CHARACTER.—Spathe bifid. Limb regular, tube short. Filaments equal, subulate, erect at first, afterwards reflex, inserted at the base, after expansion circular. Style filiform. Stigma trifid,</p> | <p>patent, fimbriated. Germen at first very small, swelling large prematurely, turbinate. (<i>W. Herb.</i>)</p> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|

DESCRIPTION, &c.—This genus only contains two species, *H. stellaris* (*Amaryllis stellaris*, Jacq.), and *H. breviflora*. Both species are natives of the Cape; but according to Mr. Herbert, neither of these has been introduced. I mention them, however, here, as *H. stellaris* is included in Mr. G. Don's new edition of Sweet's Hortus Britannicus, and the date 1794 assigned for its introduction. The name of Hessea was given in honour of Mr. Hess, a missionary at the Cape of Good Hope.

## GENUS XVIII.

IMHOFIA, *W. Herb.* THE IMHOFIA.

*Lin. Syst.* HEXANDRIA MONOGYNIA.

|                                                                                                                                                                                                           |                                                                                                                                                              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>GENERIC CHARACTER.—Spathe 2-valved. Limb patent. Style erect, strumous or thicker below, furrowed. Stigma simple, or just trifid. Filaments equal, enlarged at the base, separate, inserted in the</p> | <p>disk, patent. Anthers short, attached at the base, erect; after expansion circular. Seeds green, with one angle and a rounded back. (<i>W. Herb.</i>)</p> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|

DESCRIPTION, &c.—The name of Imhofia was originally given by Heister to *Nerine venusta*; but that being incorporated with Nerine, Mr. Herbert has adopted it for the present genus; the plants in which have been separated from Strumaria on account of their erect anthers, and of their filaments being free from the style. They are natives of the Cape, and have all been introduced many years. Imhofia is in honour of Baron Imhof, a German botanist.

1.—IMHOFIA FILIFOLIA, *W. Herb.* THE THREAD-LEAVED IMHOFIA.

SYNONYMS.—*Strumaria filifolia*, *Jacq.*; *Leucojum strumosum*, *Soland.*; *Crinum tenellum*, *Linn.*

ENGRAVING.—*Bot. Reg.* t. 440.

SPECIFIC CHARACTER.—Leaves almost filiform, channelled. Flowers 5—11. Segments acute, not undulated. Style with a great three-furrowed protrusion below the middle. Stigma with three short lobes. Anthers purple. (*W. Herb.*)

DESCRIPTION, &c.—A pretty little plant, with a terminal cluster of white star-like flowers, streaked with pink on the outside, and which are remarkable for their dark purple anthers. The stem is very slender, and the leaves are long and wire-like, twisting themselves about in all directions. The bulb is very small, but the fibrous roots are thick and strong. It is a native of the Cape, whence it was introduced in 1774. It flowers best in the open ground, but on account of the smallness of the bulb it is generally grown in a pot. It flowers in September.

2.—IMHOFIA CRISPA, *W. Herb.* THE CURLY-FLOWERED IMHOFIA.

SYNONYMS.—*Amaryllis crispa*, *Jacq.*; *A. cinnamomea*, *L'Hérit.*; *Strumaria crispa*, *Ker*; Glittering-flowered *Strumaria*.

ENGRAVINGS.—*Bot. Mag.* t. 1363; and our *fig. 3*, in Plate 32.

SPECIFIC CHARACTER.—Leaves filiform. Flowers seven or more, undulated, white and rose-coloured. Anthers purple. Filaments subulate. Style thick, three-furrowed. (*W. Herb.*)

DESCRIPTION, &c.—This beautiful little plant is quite hardy, and may be planted in the open border like a crocus; its bulb also is large, and not in so much danger of being lost as those of the other species. It looks, however, best in a pot, or in a box in a window, as from its dwarf stature its delicately-marked flowers are not seen to advantage in the open ground. The bulb is about the size of a walnut, and it is covered with a light brown skin. The leaves are about six inches, but the flower-scape is only about four inches high. The flowers are white, delicately tinted with rose-colour, and they are quite transparent; and the germen is of a shining brown, which gives the flowers a peculiarly bright and glistening appearance. It is a native of the Cape, whence it was imported by Mr. Masson in 1790. It blossoms in September and October, and, if kept under shelter, it will continue flowering through the whole of November and December. Bulbs may be had at the seed-shops, at a shilling each; and they should be planted in February.

3.—IMHOFIA GEMMATA, *W. Herb.* THE GEM-LIKE IMHOFIA.

SYNONYMS.—*Strumaria gemmata*, *Ker*; the Gynandrous *Imhofia*; Jewelled-flowered *Strumaria*.

ENGRAVING.—*Bot. Mag.* t. 1620.

SPECIFIC CHARACTER.—Leaves ciliated, subacute. Perianth very

much undulated. Style greatly enlarged at the base, so as to occupy the disk. Filaments less enlarged than in the other species, adhering to the style. Anthers white. Stigma at first sessile; afterwards trifid. (*W. Herb.*)

DESCRIPTION, &c.—This species is now lost in England, though in 1810 it was in the Hammersmith Nursery. The flowers are white, with a green mid-rib, and very much waved, with a tint of deep rose-colour at the back. The anthers and germen are white, and frosted over with minute glistening points. The flowers are on very long peduncles, and spread widely apart. It is a native of the Cape, and is said to flower in August. It is also said that, though rather tender, it requires to be planted in the free ground.

## OTHER KINDS OF IMHOFIA.

I. BURCHELLIANA, *W. Herb.*

A little plant found by Mr. Burchell near Langhloof, in flower in March, but without leaves. It appears nearly allied to *I. filifolia*. *I. B. viridescens*, a variety of this, only differs in the flowers being larger and greener.



## GENUS XIX.

CARPOLYZA, *Salis.* THE CARPOLYZA.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Umbel pedunculated. Spathe 2-valved. Limb semi-patent, regular. Tube short, funnel-shaped. Filaments adnate to the whole tube, the alternate ones a little shorter. Anthers oblong, attached at the base, not versatile. Style thick, furrowed, triangular, slenderer upwards. Stigma trifid, recurved, fimbriated; germen obovate, 3-furrowed. Capsule 3-celled, 3-valved. Seeds green, rounded on the back.

DESCRIPTION, &c.—The name *Carpolyza* is from two Greek words, relating to the capsule. The genus is distinguished from *Strumaria* by the anthers being erect and not versatile; and from *Imhofia*, in the tube, the shape of the anther, and the form of the style and stigma. There is only one species. The genus was first formed and named by Mr. Salisbury in 1807.

1.—CARPOLYZA SPIRALIS, *Salis.* THE SPIRAL-STALKED CARPOLYZA.

SYNONYMES.—*Strumaria spiralis*, *Ker*; *Crinum spirale*, *And.*; *C. tenellum*, *Jacq.*; *Hæmanthus spiralis*, *Ait.*; *Amaryllis spiralis*, *L'Herit.*

ENGRAVINGS.—*Bot. Mag.* t. 1383; *Parad. Lond.* t. 63; *Bot. Rep.* t. 92.

SPECIFIC CHARACTER.—Leaves filiform, spiral. Scape curiously twisted in the lower part. Flowers few, sometimes single. Alternate anthers mature first.

DESCRIPTION, &c.—An elegant little plant, with a very small bulb, a curiously twisted stem, and very pretty flowers, which are white, tinged with pink. The leaves are wire-like and curiously twisted. It was found by Mr. Masson near Cape Town; and it was introduced in 1774. It should be kept in the greenhouse, and grown in peat, loam, and sand. It continues flowering nearly all the summer, occasionally producing a succession of flowers from April to September.

## GENUS XX.

BUPHANE, *W. Herb.* THE BUPHANE.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Scape precocious, 100-230-flowered, pedunculated. Spathe 2-valved; tube cylindrical; limb expanded; filaments inserted without the tube, erect, diverging. Stigma a single point. Capsule turbinate, 3-celled, 3-furrowed, 3-valved, few-seeded. (*W. Herb.*)

DESCRIPTION, &c.—The leaves in this genus remain on all the year. The flowers are small, but very numerous; and the peduncles, which are crowded together, are first half erect, but afterwards spread widely, so as to form an inverse spherical head. The bulbs are very large, and consist of numerous hard, dry scales.

1.—BUPHANE CILIARIS, *W. Herb.* THE FRINGED BUPHANE.

SYNONYMES.—*Lilium Africanum*, *Herm.*; *Amaryllis ciliaris*, *Lin.*; *Hæmanthus ciliaris*, *Thun.*; *Brunsvigia ciliaris*, *Ker.*

ENGRAVINGS.—*Bot. Rep.* t. 1153; and our *fig. 1*, in Plate 31.

SPECIFIC CHARACTER.—Leaves ciliated. Segments of the perianth equal, recurved.

DESCRIPTION, &c.—This very singular plant, though it is common in collections, and though it was introduced in 1752, has never flowered in England but once; and that was in the conservatory at Newick Park, near



1. *Enphora alba* — 2. *Brassica botrytis*

Drawn by L. C. 75 to the Queen





Uckfield, in 1825. The bulb, Mr. Herbert tells us, "will rot if not kept perfectly dry during its season of rest; and will bleed if exposed to much heat at that time." It is said that the bulb should not be buried, but fixed on the surface of the ground, so that the fibrous roots may penetrate into it; and that it should be grown in loam, enriched with vegetable mould. It was found growing in strong clay at the Cape.

### OTHER SPECIES OF BUPHANE.

#### B. DISTICHA, *W. Herb.*

Bulbs of this species have been imported as large as a man's head. The flowers are purple.

#### B. TOXIARIA, *W. Herb.*

This is also called the Poison-bulb. A stove-plant, with pink flowers.

#### B. GUTTATA, *W. Herb.*

Apparently a variety of *B. ciliaris*, but with spotted leaves.

### GENUS XXI.

#### AMMOCHARIS, *W. Herb.* THE AMMOCHARIS.

##### *Lin. Syst.* HEXANDRIA MONOGYNIA.

|                                                                                                                                                                                                             |                                                                                                                                              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| <p>GENERIC CHARACTER.—Leaves vernal, not sheathing. Tube cylindrical, enlarged, sepals not imbricating thereon. Filaments adnate at the base of the limb, almost equally. Anthers short, affixed at the</p> | <p>middle. Pollen minute. Stigma obtuse, one or two lobes obsolete. Capsule turbinate, 3-valved, 3-celled, 3-furrowed. (<i>W. Herb.</i>)</p> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|

DESCRIPTION, &c.—The name of *Ammocharis* signifies, delighting in sand; and the genus, according to Mr. Herbert, "is an intermediate gradation between *Buphane* and *Crinum*; differing from the latter in anthers, pollen, capsule, filaments inserted just within, instead of without the tube, which is wider at the mouth, a shorter proportionate limb, and leaves not sheathing at the base. From *Buphane* it is distinguished by leaves that sprout again identically like those of the *Crinum*, after a period of rest." It also produces its leaves in spring, sometimes before the blossom appears, and remains dormant during winter. "Bulbs of *Ammocharis*," continues Mr. Herbert, "require complete rest in winter, when they must not be watered. They are exceeding thirsty in summer, and if planted in light earth, and left for some time in the sun without water, the leaves will die back. It is essential, therefore, to supply them constantly with moisture. To make them flower the pot should be plunged in the summer in a hotbed, after the leaves have grown to some length. In that situation it should be shaded from scorching sunshine, and it should not be kept longer than necessary in the hotbed. A rich and not very light soil is suitable to it in cultivation; and I have found it even succeed pretty well in peat; but I have found the bulbs at all times liable to unexpected rottenness, from incautious watering." (*Amaryll.* p. 242.) The species of this genus are all half-hardy, and may be grown in the open air, by planting the bulbs in February, and taking them up as soon as the leaves wither. They all formerly belonged to *Brunsvigia*, but, like the other half-hardy plants in that genus, they have been removed from it; and as the plants now left in *Brunsvigia* require a stove, the genus itself will be omitted in the present work, which, with some few exceptions, is intended only to contain open air, frame, and greenhouse plants.

1.—AMMOCHARIS FALCATA, *W. Herb.* THE SCYTHE-SHAPED AMMOCHARIS.

SYNONYMES.—*Brunsvigia falcata*, *Ker.*; *Amaryllis falcata*, *L'Herit.*; *A. longifolia*, *Lin.*; *Crinum falcatum*, *Murr.*; *Hæmanthus falcatus*, *Thunb.*; the sweet-scented Brunswick lily.

ENGRAVING.—*Bot. Mag.* t. 1443.

SPECIFIC CHARACTER.—Leaves lingulate-lorate, glaucous, quite flat, and spreading on each side in a falcate manner, edged with a short cartilaginous fringe. Scape very thick in proportion to its height. Umbel many-flowered. Capsule long, contracted at top. Cells with 1-3 fleshy, irregularly shaped seeds.

DESCRIPTION, &c.—A splendid plant, with a very large bulb, broad spreading leaves, nearly two feet long, and a spreading cluster of lily-like flowers. These flowers are of a greenish white when they first expand, but afterwards become pinkish, and finally a deep rose-colour. The species is a native of the Cape, and it was cultivated in 1752 by Miller at Chelsea. It flowers in August, and diffuses a delightful fragrance like that of the lily-of-the-valley. It should be grown in a compost of three sixths loam, one of leaf mould, one of sand, and one of the mould from an old hotbed. The bulbs should then be planted either in the free ground in the conservatory, in the open air, or in large pots; the latter being far preferable, because it allows the plants to have their temperature changed according to their stage of growth. Thus the pots may be plunged in a hotbed when the leaves begin to move in spring, to promote their growth, and the development of the flower-bud. They may then be removed to the conservatory, or the open ground to flower, and finally to a dry shed after the leaves have withered, where they may be kept without water or light, and in a state of complete repose till spring. When in a growing state they should be watered regularly and abundantly.

2.—AMMOCHARIS CORANICA, *W. Herb.* THE CORANICA AMMOCHARIS.

SYNONYME.—*Amaryllis coranica*, *Ker.*

ENGRAVING.—*Bot. Reg.* t. 139.

VARIETY.—*A. C. 2 pallida*, *W. Herb.*; *Amaryllis C. 2 pallida*,

*Lindl. Bot. Reg.* t. 1219.

SPECIFIC CHARACTER.—Leaves spreading, slightly serrulated. Flowers 40 or more in the umbel; scape inclined.

DESCRIPTION, &c.—This plant was introduced in 1816, by Mr. Burchell, the well known author of *Travels in South Africa*; and the account given of it by that gentleman in the *Botanical Register*, is so interesting that I think I cannot do better than copy it entire.

“I discovered this beautiful plant in the Corana country in the interior of Africa, several days' journey beyond the Orange River, in the latitude of 28° south. It grew on a grassy plain in a sandy soil, in such profusion as to remind me of a vast bed of choice flowers. The air was perfumed by an odour from the blossom, resembling that of the tuberose. It begins to open its flowers in succession about sunset, and continues in beauty for a week or fortnight. The bulbs, as they stood when I found them, were nearly 9 inches in diameter, of a spherical form, enveloped in a coat formed by innumerable integuments, the uppermost of which were grown together into a hard brittle mass, forming the exterior bark. From an estimate of the number of integuments, I should judge the larger the growth of not less than two hundred years, probably of three hundred. When divested of the external exuviae, the live part does not exceed four and a half inches in diameter. Notwithstanding those I have brought home have been three years and three months out of the ground, they are now growing in my garden in as flourishing a state as on their native spot, and have flowered in perfection. In their own climate the flowers are produced in December, and it is worthy of remark, how readily they have yielded to the reversal of the season in this part of the globe, by flowering in June.”

## GENUS XXII.

PHYCELLA, *Ker.* THE PHYCELLA.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth with the segments regular, convolute; filaments alternately equal, inserted alike at the mouth of the tube, decurrent, straight, recurved at the points; anthers short; incumbent, versatile; style sloping downwards. (*W. Herb.*)

DESCRIPTION, &c.—The genus *Phycella* appears most nearly allied to *Habranthus* and *Zephyranthes*, and they are natives of the same countries. In their native country they flower in spring, and go to rest during the hot dry weather of summer. Mr. Herbert planted these species in the open air in autumn in front of a small greenhouse, and threw a small heap of saw-dust over them. “In that situation, one of them flowered early in summer.” They are quite hardy, but if planted in autumn without protection, they are sometimes “tempted by mild weather to push their leaf in the winter, in which case, they suffer injury from severe frosts that may ensue, though they will endure a great deal; and their habit is to flower after the leaf has acquired its growth before they go to rest.” The best mode of treating them is to plant them in February, and to take them up as soon as the leaves have withered in August and September; keeping them dry like tulips till the following spring. All the *Phycellas* have red flowers, and the name signifies a bright fiery red.

1.—PHYCELLA IGNEA, *W. Herb.* THE FIERY PHYCELLA.

SYNONYMES.—*Amaryllis ignea*, *Ker.*

VARIETY.—*P. i.* 2 *glauca*, *Bot. Mag.*, t. 2687.

ENGRAVINGS.—*Bot. Reg.*, t. 809.

SPECIFIC CHARACTER.—Leaves tipped with red; peduncles long;

perianth yellow below, scarlet upwards; two awl-shaped processes at the foot of each sepaline filament; style longer than the filaments, filaments than the perianths. Perianth about two and a half inches long. (*W. Herb.*)

DESCRIPTION, &c.—A beautiful plant, a native of Chili, whence it was introduced in 1824. It is generally grown in pots in a light loamy soil, but it is rather difficult to flower. The bulb is egg-shaped, and grows half out of the ground; and the leaves are about a foot and a half long, and of a bright green. The umbel is 6-flowered. It appears tolerably hardy, but the bulbs are at present too scarce and dear, to admit of trying them in the open air.

The variety is much smaller than the species, and the tips of the flowers are of a darker red. The variety is a native of Valparaiso.

2.—PHYCELLA CYRTANTHOIDES, *W. Herb.* THE CYRTANTHUS-LIKE PHYCELLA.

SYNONYME.—*Amaryllis cyrtanthoides*, *Hook.*

ENGRAVINGS.—*Bot. Mag.*, t. 2399:

SPECIFIC CHARACTER.—Leaves green, peduncles very short. Perianth

greenish-yellow at the base; the rest red. Petaline filaments a quarter of an inch longer than the others, quarter shorter than the style, all red. (*W. Herb.*)

DESCRIPTION, &c.—This handsome plant was introduced in 1822. It is a native of Chili, where it was found by Professor Poeppig, growing on sandy hills near the sea-side. In England, it seems nearly hardy; but it should be grown in sand, or sandy loam, on a rocky sub-soil. Like the other species of the genus it requires a season of complete rest, and it should be taken up in autumn when it has done flowering, and kept in sand through the winter.



3.—PHYCELLA HERBERTIANA, *Lindl.* MR. HERBERT'S PHYCELLA.

ENGRAVINGS.—*Bot. Reg.* t. 1341, and our fig. 3 in Plate 33.

SPECIFIC CHARACTER.—Leaves narrow, obtuse. Limb slender, very little attenuated, pale-red, equal to the filaments, shorter than the style,

faucial membrane, according to Professor Lindley, annular, fimbriated. (*W. Herb.*)

DESCRIPTION, &c.—This delicate little plant is much smaller than all the other species of the genus. The bulb is covered with a deep brown skin, and has a very long neck. The leaves are narrow, somewhat recurved, and shorter than the scape; and the umbel is 3-flowered. The species is “a native of Cumbre, a pass in the Andes, between Valparaiso and Santiago, where it was found by Mr. M'Rae in November, 1825, flowering in company with many other curious and beautiful plants.” (*Bot. Reg.*, vol. 16.) The imported bulb had grown in a black soil, but Mr. Herbert cautions any one from attempting to grow it in peat. “The Phycellas,” he says, “have been found difficult to cultivate, because they have been often set in peat, though they grow naturally in a sandy or strong soil, on a dry rocky sub-stratum, and proper rest has not been allowed them. They should be planted in a light soil well drained, and be left dry from the moment the leaves show a disposition to wither, till the bulbs, on examination, show a disposition to push out fresh fibres at their base. The old fibres in this genus seem always to perish before the plant vegetates again; it cannot, therefore, be injurious, and may be advantageous, to take the bulbs out of the ground when the leaves perish, and set them again when they are disposed to move. They will be best preserved in dry sand.” (*Herb. Amaryll.* p. 156.)

## GENUS XXIII.

GRIFFINIA, *Ker.* THE GRIFFINIA.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Leaves wide, petiolated; umbel many-flowered; germen pedunculated; tube cylindrical, declined; segments reflex, the lower divaricate, the lowest stretched forward; filaments

decurent in the tube, recurved; anthers incumbent. Seeds large, roundish, white, with a small black chalaza. *W. Herb.*

DESCRIPTION, &c.—As the species of this genus are generally kept in the stove, I am, perhaps, scarcely justified in introducing them here; but I do so, because I am told that they have been grown, and have flowered beautifully, in a much lower temperature. In their native country, they grow in shady woods in a strong loam; but in our stoves, a soil of this nature soon destroys them. Planted in a conservatory, however, in a loamy soil well drained, and where they are shaded by the leaves of the plants trained under the glass, I am told that they grow to a large size, and flower beautifully. The species are natives of South America; and the genus is named in honour of Mr. Griffin, a celebrated cultivator of bulbs about fifty years ago.

1.—GRIFFINIA HYACINTHINA, *Ker.* THE HYACINTHINE GRIFFINIA.

SYNONYME.—*Amaryllis hyacinthina*, *Bot. Reg.*

ENGRAVINGS.—*Bot. Reg.* t. 163; and our fig. 1, in Plate 33.

SPECIFIC CHARACTER.—Umbel sub-sessile. Leaves petiolated,

lamina strongly nerved. Segments of the perianth deeply cut; the upper two erect. Anthers remote.

DESCRIPTION, &c.—The blossom of this beautiful plant appears before the leaves; the flowers, though they are very beautiful, have no fragrance. The leaves are very unlike those of most other bulbous plants, as they



1. *Griffonia Hypocynthos* 2. *Griffonia intermedia* 3. *Lycetta Herbertiana*

Drawn by F. T. Smith. Colored by J. H. Green.





have long foot-stalks, and a very broad, strongly-veined blade. The plant, in its native country, "grows in woods on the hills behind Rio Janeiro, eight inches deep in strong loam, the scape and leaves rising to the height of two feet." (*Amaryll.* p. 228.) Though its native soil is a strong loam, in British stoves it seems to thrive best in peat and sand; but if planted in the ground in a conservatory the soil may be a strong loam, care being taken to secure ample drainage. In pots it is very difficult to flower, on account of the great care it requires with regard to watering; and it never grows to above half its proper size.

## 2.—GRIFFINIA PARVIFLORA, Ker. THE SMALL-FLOWERED GRIFFINIA.

ENGRAVING.—Bot. Reg. t. 511.

SPECIFIC CHARACTER.—Leaves oval-lanceolate; petiole transversely two-edged; umbel with long peduncles; segments of the corolla uniform.

DESCRIPTION, &c.—The bulb is tunicated, and about the size of a pigeon's egg. The flowers are very small and very pretty. The species is a native of Brazil, and it was introduced in 1820.

## 3.—GRIFFINIA INTERMEDIA, Lindl. THE INTERMEDIATE GRIFFINIA.

ENGRAVINGS.—Bot. Reg. t. 990; and our *fig.* 2, in Plate 33.

SPECIFIC CHARACTER.—Leaves oval, tapering towards the petiole,

which is strongly channelled. Scape two-edged. Segments of the perianth oblong-obtuse, smooth, nearly equal.

DESCRIPTION, &c.—"This interesting addition to the genus *Griffinia*," says Dr. Lindley, in the *Botanical Register*, "is, as it were, exactly intermediate between the two species already known. From *G. hyacinthina* it is distinguished by its smaller flowers, with equal obtuse segments, which have a regular expansion; and from *G. parviflora* it is equally different, not only in the greater size of its flowers, but in the form of their segments, which are never acuminate, but also in the compactness of the umbel, and in the channelled and somewhat margined petiole of the leaves. In the foliage, indeed, the present species offers obvious marks of difference from both the two former species. The leaves are shorter, much more oval, and more decidedly tapered than in *G. hyacinthina*; they are larger and obtuse, and have a very differently-formed petiole from those of *G. parviflora*." (*Bot. Reg.* vol. xii.) This species is a native of Rio Janeiro, and it was introduced in 1825.

## GENUS XXIV.

### HÆMANTHUS, Willd. THE BLOOD-FLOWER.

*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Spathe 3—many-valved. Perianth nearly regular; tube straight. Filaments straight, inserted in the top of the tube. Anthers short, sub-erect. Lobes of stigma three, or obsolete.

Pericarp valveless, furrowless, often coloured; middle coat pulpy. Cells with one ovule; dissepiments obsolete. *W. Herb.*

DESCRIPTION, &c.—The flowers of these plants are so very remarkable, that it may excite some surprise that I have not given any figures of them in my plates; but the fact is that I was in very great doubt whether I should notice the genus at all; as from the stiff, upright stalks, and large, unsightly heads of flowers of most of the half-hardy species, they can scarcely be called ornamental. The only really beautiful *Hæmanthus* is *H. multiflorus*, and though that may blossom for one season in a common pot, the bulb cannot be long preserved without the heat of a stove. Of the half-hardy kinds the handsomest is *H. carneus*; but that varies so much that very little dependence can be placed on it.

There is in this genus, Mr. Herbert observes, an extraordinary diversity in the bulbs, leaves, and habit of the different species ; and in consequence of this he has divided the species into different sections ; in one of which the leaves have a long, hollow, cylindrical foot-stalk, which acts as a sheath ; and cylindrical bulbs ; while in another section there are only two or three broad leaves, without any foot-stalk, and compressed imbricated bulbs. The third section contains only one species, which appears intermediate between the other two. There is also another striking difference between the species comprised in the two principal sections ; and that is, in the first the flowers appear when the leaves are in full vigour ; while in the latter the leaves appear after the flowers. All the kinds require a season of rest, when the bulbs should be kept dry.

## SECTION I.—BULB OVATE ; LEAVES CYLINDRICALLY-SHEATHING, UNDULATED.

### SUB-SECTION I.—LIMB SPREADING.

#### 1.—HÆMANTHUS MULTIFLORUS, Mart. THE MANY-FLOWERED HÆMANTHUS.

ENGRAVINGS.—Bot. Mag. t. 291 ; Lodd. Bot. Cab. t. 1948 ; Bot. Rep. t. 318.

SPECIFIC CHARACTER.—Spathe three-leaved, drooping, withering. *W. Herb.*

DESCRIPTION, &c.—This species has a head of beautiful starlike, dark scarlet flowers, which, unlike those of most of the other plants belonging to the genus, have a light and elegant appearance. It is a native of the coast of Guinea, and is found in abundance near Sierra Leone. In its native country, and also in England, when kept in a bark stove, it flowers splendidly, often producing from forty to sixty flowers in one umbel ; but in England, without artificial heat, it seldom produces more than five or six flowers. The plant is very handsome, as the flower-stem is not so stiff and erect as those of most of the other species, and the flowers are of a most brilliant scarlet. Imported bulbs may be planted in pots, and kept in a window or under a veranda, where they will flower tolerably well the first season, and sometimes, if protected during winter, the second ; but after that they will die. In fact, the bulbs seldom flower well after the first season, without stove heat. The species was introduced in 1794, and it is common among stove bulbs. There are two other species belonging to this division, *H. Abyssinicus* and *H. Delagoansis*, but they have not been yet introduced.

### SUB-SECTION II.—LIMB ERECT.

#### 2.—HÆMANTHUS PUNICEUS, Lin. THE YELLOWISH-RED BLOOD-FLOWER.

ENGRAVINGS.—Bot. Mag. t. 1315 ; Lodd. Bot. Cab. t. 912.

SPECIFIC CHARACTER.—Spathe many-valved, green, suberect, persistent. Flowers erect, closed. *W. Herb.*

DESCRIPTION, &c.—This species has certainly no pretensions to be called ornamental. The flower-stem is thick, short, and stiffly erect ; and the flowers are crowded together so as to form a dense lumpish head ; their colour is a pale, dingy, yellowish-red, and they have no fragrance. This species is a native of the Cape, whence it was first sent to Holland ; and thence was introduced into England by Dr. James Sherard, in whose garden at Eltham it flowered in 1722. It is a greenhouse plant ; it flowers in May and June, and ripens abundance of seeds. There is a variety, the flowers of which are nearly white, which was imported by Mr. Lee, of the Hammersmith Nursery, direct from the Cape.

## SECTION II.—LEAVES ERECT, UNDULATED; BULB CYLINDRICALLY OVATE.

3.—*HÆMANTHUS UNDULATUS*, *Masson*. THE CRISPED-LEAVED BLOOD-FLOWER.ENGRAVING.—Herb. Amaryll., Plate 30, *fig.* 1.

SPECIFIC CHARACTER.—Leaves erect, very much undulated. Bulb not imbricated.

DESCRIPTION, &c.—This very curious little plant is only known from a specimen existing in the Banksian Herbarium. The leaves are long, erect, very narrow, and so much undulated as to appear crisped. It is a native of the Cape, where it was found by Mr. Masson, who visited that country about sixty or seventy years ago, and introduced many of our most beautiful Cape bulbs. The present species has, however, never been introduced.

## SECTION III.—LEAVES NOT SHEATHING, NOT UNDULATED; BULB COMPRESSED. IMBRICATED.

## SUB-SECTION I.—LIMB PATENT.

4.—*HÆMANTHUS CARNEUS*, *Ker*. THE FLESH-COLOURED *HÆMANTHUS*SYNONYME.—*H. roseus*, *Link*.

ENGRAVINGS.—Bot. Reg. t. 509; Bot. Mag. t. 3373.

SPECIFIC CHARACTER.—Leaves broad, hairy all over; spathe withering, not coloured. Flowers semi-patent. *W. Herb*.

DESCRIPTION, &c.—This species varies very much, and sometimes, as in the specimen figured in the Botanical Magazine, the flowers are sufficiently loose and spreading to take off the heavy lumpish character common to the genus. The stem is however always short, thick, and stiffly erect; and the flowers, though of a delicate rose-colour, are disposed in a dense head. The leaves are generally nearly round, and they are always short and broad, and covered on both sides with a profusion of short, white hairs, which stand erect. The bulb is rather small, and it is covered with loose irregular scales. This species was introduced from the Cape of Good Hope in 1818, and it is generally kept in the greenhouse.

The other species belonging to this section are, *H. amaryllidioides*, *Jacq.*; *H. strigosus*, *Mass.*; *H. lanceæ-folius*, *Jacq.*; *H. pumilio*, *Jacq.*; and *H. brevifolius*, *Mass.*;—all natives of the Cape, and none of which have yet been introduced.

## SUB-SECTION II.—LIMB ERECT, CLOSE.

5.—*HÆMANTHUS VIRESCENS*, *W. Herb*. THE GREENISH *HÆMANTHUS*.

SPECIFIC CHARACTER.—Bulb green; leaves pubescent or ciliated; spathe not coloured; perianth whitish, shorter than the filaments. *W. Herb*.

VARIETIES.—*H. v.* 1 pubescens, *W. Herb.*; *H. pubescens*, *Lin.*, Bot. Reg. t. 382, Lodd. Bot. Cab. t. 702. Leaves broad, hairy, varying in obtuseness. Spathe many-leaved, green; perianth white, shorter than the stamina and style. *W. Herb*.

*H. v.* 2 intermedius, *W. Herb.*; *H. albiflos*, *Ker.*, Bot. Mag. t. 1239. Leaves smooth, margin villously ciliated; spathe white, with green veins; style more prolonged. *W. Herb*.

*H. v.* 3 albiflos. *W. Herb.*; *H. pubescens*, var. *albiflos*, *Lindl.*; *H. albiflos*, *Jacq.*; Bot. Reg. t. 984; Hort. Schön. 1, t. 39, and Lodd. Bot. Cab. t. 602. Leaves smooth, margin ciliated; spathe whitish; style not prolonged. *W. Herb*.

DESCRIPTION, &c.—Three kinds of *Hæmanthus*, generally considered as distinct species, are made varieties of one species, by Mr. Herbert, on account of their green bulbs, their short broad leaves, which are edged with a



close, pure, white fringe, and their white flowers. The handsomest of the three is *H. v. pubescens*, as its short, thick stem bends slightly, and its head of flowers, of which only the stamens are seen, looks like one large flower, of which the green involucre forms the corolla. This plant was introduced by Mr. Masson, in 1774. *H. v. intermedius* has a smaller and less handsome head of flowers. It was introduced in 1808; and *H. v. albiflos*, which has a short, stiff, and very thick stem, and a very small head of flowers, has certainly no pretensions to be considered ornamental at all. They are all natives of the Cape, and are all greenhouse bulbs.

#### 6.—HÆMANTHUS QUADRIVALVIS, Jacq. THE FOUR-VALVED BLOOD-FLOWER.

ENGRAVINGS.—Jacq. Hort. Schön. 1, t. 58; Bot. Mag. t. 1523. large, bright red. Perianth red, very close, tipped with white. Stigma  
SPECIFIC CHARACTER.—Leaves narrow, acute, spotted (not always) trifid. *W. Herb.*  
on the base, behind; hairy on the surface. Scape spotted; spathe

DESCRIPTION, &c.—This plant is one of those which have procured the name of blood-flower for the genus. The flowers are small, and no part of them is seen but the stamens; but the spathe, which is divided into four valves, is of a blood red; and it so completely encloses the umbel, and the latter is so dense, that it seems the corolla of the flower. The bulb is loosely imbricated, and the fibrous roots are of the thickness of a large quill. The leaves are six or eight inches long, and more than an inch broad; they are of a deep green, and they are sometimes irregularly spotted and blotched with deep crimson towards the lower part. The flower-scape is stained in the same manner, but with smaller spots. The species was introduced by Mr. Masson from the Cape in 1774. It should be kept in a greenhouse, and allowed a season of rest after the leaves decay.

#### 7.—HÆMANTHUS ROTUNDIFOLIUS, Ker. THE ROUND-LEAVED BLOOD-FLOWER.

SYNONYME.—*H. orbicularis*, *Donn.* with a rough margin. Scape and spathe deep red, four-valved.  
ENGRAVING.—Bot. Mag. t. 1618. Perianth pale red, with white tips, shorter than the stamens and the  
SPECIFIC CHARACTER.—Leaves pressed to the ground, large, round, style. *W. Herb.*

DESCRIPTION, &c.—The stem and spathe are of a blood-red; and the spathe rises in a cup-shape round the flowers. The two leaves are flat to the earth, and apparently joined together; and they are fringed with scarlet instead of white. The species is a native of the Cape, whence it was introduced in 1812. It flowers in August, and the leaves attain their full growth in November and December. It is generally kept in the greenhouse. There is a variety called *H. r. multivalvis*, which only differs from the species in having the spathe in more divisions.

#### 8.—HÆMANTHUS COCCINEUS, Lin. THE SCARLET, OR COMMON BLOOD-FLOWER.

SYNONYMES.—*H. c. 1 grandivalvis*, *W. Herb.*; *H. africanus*, SPECIFIC CHARACTER.—Leaves tongue-shaped. Spathe many-  
*Tournefort*; *Narcissus bifolius*, *Rob.*; Salmon-coloured Blood-flower. valved; valves longer than the umbel, and of the same colour. Scape  
ENGRAVING.—Bot. Mag. t. 1075. spotted.

DESCRIPTION, &c.—It was this plant which obtained for the genus its popular name of Blood-flower. It is the most common of all the species, and was probably the first introduced, having been cultivated by Miller, in 1731. Its singular form and colour seem to have recommended it to notice; and it has been in cultivation in greenhouses for above a century. It flowers in August or September, and matures its leaves in winter; after these decay, it should be kept quite dry, in order to give it a season of rest. There is a variety *H. c. 2 coarctatus*. *W. Herb.*, *H. coarctatus*, Bot. Reg. t. 181, which has a very small, close umbel of flowers, enclosed in a spathe

of numerous, erect, salmon-coloured valves, and which was introduced from the Cape by Mr. Masson in 1795. The culture is the same as that of the species. There is another variety mentioned by Mr. Herbert, which he calls *H. c. 3 carinatus*, because the leaves are narrower, much longer, and more channelled.

### 9.—HÆMANTHUS TIGRINUS, Willd. THE TIGER-SPOTTED BLOOD-FLOWER.

ENGRAVING.—Bot. Mag. t. 1705.

SPECIFIC CHARACTER.—Leaves ciliated, obovate, very little attenuated. Scape green, speckled. Spathe red, valves short, narrow.

Germen and peduncle green. Tube white. Limb red. Style and filaments equal; longer than the valves. *W. Herb.*

DESCRIPTION, &c.—The flower-stem is very short and very thick, and it is spotted all over with crimson spots. The leaves are fleshy and tongue-shaped, and ciliated at the margin; they are also marked with dark red spots, like the scape. The valves of the spathe are short, and though they are red, they have not the appearance of the corolla of a flower. The species was introduced about 1812, and it requires the same culture as the other kinds.

The following species also belong to this sub-section: *H. humilis*, Jacq.; *H. sanguineus*, Jacq.; *H. hyalocarpus*, Jacq.; *H. moschatus*, Jacq.; *H. incarnatus*, Burch.; *H. crassipes*, Jacq.; *H. zebinius*, W. Herb.; and *H. concolor*, Burchell.

## GENUS XXV.

### CRINUM, Lin. THE CRINUM.

*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Germen thickest in the middle. Tube cylindrical, slender. Filaments inserted just outside the tube, more or less recurved. Anthers incumbent, versatile. Stigma three-

cornered or trifid. Capsule soft, deformed, without valves or furrows. Dissepiments obsolete. Seeds very irregular in form, size, and number. Leaves properly tubular at the base. *W. Herb.*

DESCRIPTION, &c.—The splendid lily-like plants belonging to the genus *Crinum*, are mostly inhabitants of the stove in Britain; and even those that are not killed by exposure to the open air during winter, appear to require a considerable degree of heat to make them flower. Even the Botany Bay lily (*Crinum Australe*), though it will bear a considerable degree of cold without injuring its bulb, will not flower without a stove.

### 1.—CRINUM AUSTRALASICUM, W. Herb. THE AUSTRALIAN CRINUM.

SPECIFIC CHARACTER.—Bulbs spherical. Leaves fleshy and rigid. Filaments gibbous at the base. Germen sessile, sub-sessile, or on a short peduncle. *W. Herb.*

VARIETIES.—*C. A. 1 arenarium*, *W. Herb.*; *C. arenarium*, *Bot. Mag.* t. 2355. Leaves with the margin slightly scabrous. Style longer than the filaments, but shorter than the limb. Cells with six ovules. *W. H.*

*C. A. 2 blandum*, *W. Herb.*; *C. arenarium*  $\beta$  *Bot. Mag.* t. 2531; and our *fig. 1*, in Plate 34. Leaves larger. Peduncles longer. Limb broader, black-coloured without. Filaments white, style red upwards, much longer, stigma much smaller than in the species. *W. H.*

DESCRIPTION, &c.—Both kinds were found growing in 1818 in Water Island, latitude 14° 3' south, "ten inches below the surface of a barren sandy soil; thermometer in the shade with the sea breeze blowing 94° Fahr.; heat of the sand 130° near the surface."—(*Herb. Amaryll.*) In England these plants should be grown in sand mixed with a little loam, and they will flower in a greenhouse if kept perfectly dry for six months of the year, when they are in a state of perfect rest. The bulbs are very apt to rot if kept in a stove, on account of the moisture of the atmosphere; and they will not bear any forcing when they are in a state of rest.

2.—*CRINUM FLACCIDUM*, *W. Herb.* THE FLACCID CRINUM.

SYNONYMS.—*Amaryllis australasica*, *Bot. Reg.*; *Macquarrie Crinum*.

ENGRAVINGS.—*Bot. Reg.* t. 426; *Bot. Mag.* t. 2133.

SPECIFIC CHARACTER.—Umbel many-flowered. Leaves linear-lorate, flaccid. Perianth funnel-shaped. Tube obsoletely triangular. Segments obovate, nearly equal. Germen on a fleshy peduncle. *W. H.*

DESCRIPTION, &c.—This species has very much the appearance of a white lily. It is tolerably hardy, and will live for years in the open ground without protection, though it rarely flowers there. In a greenhouse it will flower, if kept dry during winter. When kept in a stove, it should be in the coolest part. It is a native of South Australia, where it was found under the Macquarrie range in S. lat. 33°. It was introduced in 1818.

3.—*CRINUM REVOLUTUM*, *W. Herb.* THE REVOLUTE CRINUM.

SYNONYME.—*Amaryllis revoluta*, *Ker.*

ENGRAVINGS.—*Bot. Reg.* t. 623; ? *Bot. Mag.* t. 915.

SPECIFIC CHARACTER.—Bulb ovate. Leaves narrow, lorate-linear, curving towards the ground, appearing in summer, and withering in autumn. Flowers streaked with rose-colour. *W. H.*

DESCRIPTION, &c.—This very beautiful species of *Crinum* is very nearly hardy, but it is difficult to cultivate, as it must be kept perfectly dry and cool during the six winter months. It should be grown in light loam. "The bulb," says Mr. Herbert, "must not be kept above ground, but the neck just emerging. It will flower in the summer in the greenhouse, and approaches nearer to the tropical *Crinums* than any other native of the Cape. It will bleed to death if forced in winter, and rot if watered at that season." It is a native of the Cape, whence it was brought by Mr. Burchell in 1820; though, if the same with the plant figured in the *Bot. Mag.*, it was first introduced into England in 1774.

4.—*CRINUM VARIABLE*, *W. Herb.* THE VARIABLE CRINUM.

SYNONYMS.—*Amaryllis variable*, *Jacq.*; *A. revoluta*  $\beta$ , *Ker.*; 2 *A. revoluta*, *Bot. Mag.*; *Crinum crassifolium*, *Herb. Append.*

ENGRAVINGS.—*Bot. Reg.* t. 615; ? *Bot. Mag.* t. 1178.

SPECIFIC CHARACTER.—Leaves of a deep green, erectly arched, fleshy. Flowers white when they expand, but dying off of an intense red. *W. H.*

DESCRIPTION, &c.—This species Mr. Herbert considers hardier than any other, as, "out of doors, it preserves its leaves in winter longer than *C. capense*, and it shoots earlier in spring." The flowers of this species when they first expand, are of a pure white, but they become tinged with red as they fade, till at last they die off of an intensely dark purplish-red. The leaves are always of a rich dark green. The species is a native of the Cape, and it was introduced in 1774. It may be planted in the open ground in a dry situation, and will require no farther care.

5.—*CRINUM CAPENSE*, *W. Herb.* THE CAPE CRINUM.

SYNONYMS.—*Amaryllis Capensis*, *Mill.*; *A. longifolia*, *Ker.*; *Crinum longifolium*, *Thunb.*; *Lilium africanum*, *Herm.*

ENGRAVING.—*Bot. Mag.* t. 661.

SPECIFIC CHARACTER.—Leaves glaucous, longer than the scape. Flowers numerous, upright, and on long peduncles; perianth campanulate, tube obtusely triangular, and segments partially recurved.

VARIETIES.—*C. c. 2 riparium*, *W. Herb.*; *Amaryllis longifolia*

var. *riparia*, *Ker.*; the Black river *Crinum*. A very beautiful and quite hardy plant, having the flowers striped with a rich dark-purplish crimson. A native of South Africa, where it was found by Mr. Burchell, on the banks of Nu-Gariep, the Black river.

*C. c. 3 flore albo*, *W. Herb.*; an accidental variety raised in Holland, with white flowers, equally hardy with the other kinds.

DESCRIPTION, &c.—All the varieties of the Cape *Crinum* are distinguished by their glaucous leaves; and they are all quite hardy. This species, says Mr. Herbert, "flowers in profuse succession during five or six months, in a bed covered with leaves in the winter, and with me it ripens seeds by the bushel. It delights in wet, and will flower in a pond, but its fibres are rather disposed to rot in the water of a cold pond in the winter. In a warmer





*Lilium reginae* - *Lilium reginae*

*Lilium reginae* - *Lilium reginae*



situation it may remain always in water. I do not know that its fibres would rot if it was growing in the soil under the pond. It might be advantageously planted by the edge of any ornamental piece of water, and would form a beautiful clothing for a small island, where it would form a thick covert for water-fowl. Nursery gardeners might easily rear it from seed to sell by the hundred. A covering of leaves is not necessary to it, and its own dead foliage would give it a good deal of protection. I have had the neck of a bulb, which was left in a pot standing in a small pond clasped tight by ice two inches thick for a fortnight without receiving any injury from it." (*Herb. Amaryll.* p. 270.) In the neighbourhood of London, bulbs of this species have been known to stand out ten years, and, without any covering, producing their highly fragrant flowers every season. *C. capense* was introduced from the Cape by Mr. Masson, in 1773.

#### 6.—CRINUM CAMPANULATUM, *W. Herb.* THE CAMPANULATE CRINUM.

SYNONYME.—*Crinum aquaticum*, *Burch.*

ENGRAVING.—*Bot. Mag.* t. 2352.

SPECIFIC CHARACTER.—Bulb ovate. Leaves so deeply channeled as to appear cylindrical, tortuous, and pointed, with a rough margin.

Umbel four-flowered; perianth with a long slender tube, and campanulate limb, the segments of which are slightly recurved. Filaments united at the base, which is a little gibbous, by a conspicuous glossy green fleshy membrane adhering to the base of the limb. *W. Herb.*

DESCRIPTION, &c.—The flowers of this species are of a glossy white when young, and of a deep rose-colour when they become older, thus forming a beautiful contrast. They are also very fragrant, somewhat resembling the odour of *C. capense*. The species was found by Mr. Burchell to "the east of the Cape colony, in shallow grassy ponds, liable to be dried up in summer." Notwithstanding this, it is a plant that is very easily killed by over watering. It will not live in the open air, on account of the wetness of our winters; but must be kept in the greenhouse all the year, as even a heavy shower in autumn will make it rot.

#### OTHER SPECIES OF CRINUM.

BETWEEN twenty and thirty hybrids, most of which have proved hardy, have been raised by Mr. Herbert, and others. Those raised from *C. capense* are all very beautiful, and very fragrant like the parent; and nearly all the kinds seed freely.

#### GENUS XXVI.

#### COBURGHIA, *Swt.* THE COBURGHIA.

*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Bulb ovate; germen ovate, 3-furrowed; tube bent, cylindrical, subventricosely enlarged; limb shorter than the tube, equal, half open, cernuous; filaments nearly equal, a little conniving,

connected by a tubular cup; anthers erect; style a little recurved; stigma obtuse, triangular; capsule erect; oblong, triangular, 3-lobed, 3-celled, 3-valved; seeds black. (*W. Herb.*)

DESCRIPTION, &c.—This genus was named in honour of Leopold, King of the Belgians, whose merit as an excellent botanist is so well known, and so universally acknowledged; and who, when he resided at Claremont, had a remarkably fine collection of bulbs. Only two species of *Coburghia* are in general cultivation; and both these appear to bear cold tolerably well, though they are very liable to be injured by too much wet. They require



a strong rich soil ; that is, a sandy loam, enriched with vegetable mould, or thoroughly rotten manure from an old hotbed. They will do well in the open ground during summer, but they should be taken up as soon as the leaves begin to wither, and quite kept dry during winter. When grown in pots, which is the best way of treating them, the pots should be well drained, and plunged in the open border, till the leaves are fully grown, when they should be removed to a greenhouse, cool stove, or warm room, to promote their flowering. When left all the year in the open ground, they are very apt to produce only offsets, and no flowers.

### 1.—COBURGHIA INCARNATA, *Swt.* THE FLESH-COLOURED COBURGHIA.

SYNONYME.—*Pancratium incarnatum*, *Humb. Bonp. et Kunth.*

ENGRAVINGS.—*Swt. Brit. Flow. Gard.* 2nd ser. t. 17 ; and our *fig.* 2, in Plate 34.

SPECIFIC CHARACTER.—Leaves thick, glaucous, obtuse ; peduncles short ; flowers crimson, with a green spot on each segment ; cup campanulate, 12-toothed ; style equal to the filaments, shorter than the limb. *W. Herb.*

DESCRIPTION, &c.—This very splendid plant is nearly hardy. It is a native of Quito, in Peru, where it was found by Humboldt and Bonpland growing about eight thousand feet above the level of the sea. The bulb is large, and when it is planted in the open ground, it should be in very sandy loam ; and the bulb should be placed at least six inches below the surface. In pots its culture is exactly similar to that of the Jacobæan lily. It was introduced by Mr. Knight, of the Exotic Nursery, Chelsea, in 1820.

### 2.—COBURGHIA FULVA, *W. Herb.* THE TAWNY COBURGHIA.

ENGRAVINGS.—*Bot. Reg.* t. 1497 ; *Bot. Mag.* t. 3221.

SPECIFIC CHARACTER.—Leaves sub-glaucous, thinner than those of

*C. incarnata* ; peduncles short ; filaments nearly equal to the limb, style longer. *W. Herb.*

DESCRIPTION, &c.—This species has tawny orange flowers. It first flowered in the collection of J. Willmore, Esq., of Oldfield, near Birmingham, who procured it from Liverpool with some other American bulbs, so that its native country is not exactly known. It is more tender than the preceding species, but it will flower in the open ground, if taken up and kept dry during winter.

### OTHER SPECIES.

THERE are three or four other species of *Coburgia* recorded in books, but they do not appear to have been introduced.

## GENUS XXVII.

### CYRTANTHUS, *Willd.* THE CYRTANTHUS.

*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Germen pendulous or declined ; tube curved, narrow, funnel-shaped, often a little ventricose ; segments short ; filaments straight, decurrent, inserted in the upper portion of

the tube, the sepaline hardly lower than the petaline ; anthers attached at the upper third part, sub-erect ; style curved downwards. *W. Herb.*

DESCRIPTION, &c.—The species composing this genus are very properly divided by Mr. Herbert into two sections, as they differ widely from each other. The first section consists of only two species, both of which

have showy flowers and persistent leaves (that is, leaves remaining on all the winter), and are very difficult to keep; those of the second section, on the other hand, have less showy flowers, and deciduous leaves, but they are of much easier culture. The name of *Cyrtanthus* signifies "curved flower."

## SECTION I.—WITH PERSISTENT LEAVES.

### 1.—CYRTANTHUS OBLIQUUS, Ait. THE OBLIQUE-LEAVED CYRTANTHUS.

SYNONYMES.—*Crinum obliquum*, Lin.; *Amaryllis umbrella*, L'Hérit.; *Monella* sp., Salis.

1, in Plate 35.

ENGRAVINGS.—Bot. Rep. t. 265; Bot. Mag. t. 1133; and our fig.

SPECIFIC CHARACTER.—Flowers ten or more, pendulous, large, orange-yellow and green; leaves wide, sub-glaucous. *W. Herb.*

DESCRIPTION, &c.—This splendid plant, though it was introduced by Mr. Masson in 1774, and has been common among our collections of bulbs ever since, is very difficult to manage, as the bulbs are "more disposed to dwindle and rot, than to increase in bulk." "A common greenhouse is usually too damp for it in winter, and the air of a hot stove too confined;" while its persistent leaves totally disqualify it for remaining during winter in the open air. A light soil (without any mixture of peat) in a pot, seems most suitable to it; and this pot should be kept in a greenhouse, where it will have plenty of air, and be very seldom watered during winter. When kept in a stove, it should be in the coolest situation, and on a shelf as near the glass as possible. The pot may be plunged in the open ground in summer. The soil, though light, should be of sufficient tenacity for the ball not to fall to pieces when turned out of the pot; it is also best when it consists partly of yellow loam.

### 2.—CYRTANTHUS CARNEUS, Lindl. THE FLESH-COLOURED CYRTANTHUS.

ENGRAVING.—Bot. Reg. t. 1462.

SPECIFIC CHARACTER.—Flowers, eight or more, pendulous, subven-

tricose, narrower than those of *C. obliquus*, paler at the base; leaves blunter, and filaments inserted higher. *W. Herb.*

DESCRIPTION, &c.—This species differs very little from *C. obliquus*, except in the colour of the flowers, which are decidedly pink. The stem and leaves are somewhat more twisted, and the whole plant is smaller. It is a native of the Cape, whence it was introduced about 1828. "*C. carneus*," says Mr. Herbert, "is one of the most difficult to manage; twice I lost it, notwithstanding the greatest care, and have at last succeeded in establishing one with better hopes, by giving it water very seldom the first year, and rather more after it had formed a strong leaf, keeping it as much as possible in a draught of air in a greenhouse. It is planted in a mixture of white sand, with a little light loam, with an open under drain."

## SECTION II.—WITH DECIDUOUS LEAVES; TO BE KEPT DRY IN WINTER.

### 3.—CYRTANTHUS PALLIDUS, Hook. THE PALE CYRTANTHUS.

SYNONYMES.—*Amaryllis bivaginata*, Donn. ? *Monella* sp. Salis.

ENGRAVING.—Bot. Mag. t. 2471.

SPECIFIC CHARACTER.—Flowers about five, pendulous, subventricose. Leaves dark green, acute, attenuated at both ends. *W. Herb.*

DESCRIPTION, &c.—The flowers are rather small, and of a pale dingy pink; and the leaves, which are of a dark green, are small, and sharply pointed. The leaves do not appear till the flower has quite decayed. The species is a native of the Cape, whence it was imported in 1822. It is generally kept in the greenhouse. It is in the garden of the Horticultural Society, but it is by no means common in collections.

4.—CYRTANTHUS COLLINUS, *Ker.* THE HILL-SIDE CYRTANTHUS.

ENGRAVING.—Bot. Reg. t. 162.

SPECIFIC CHARACTER.—Flowers about nine, pendulous, subventricose; sub-acute, attenuated below, purplish at the base. *W. Herb.*

DESCRIPTION, &c.—A very handsome species, with dark scarlet flowers, which are almost orange at the tip, and long glaucous leaves. It was introduced by Mr. Burchell about 1815; and it was found by that gentleman on the hills near Genadendal, in the interior of South Africa, about a hundred miles from the chief town at the Cape. In England it is a greenhouse plant, and should be grown in loamy soil which is sufficiently firm, and does not crumble when it is turned out of the pot. It is very showy, from the contrast afforded by its dark scarlet flowers, and bluish green leaves.

5.—CYRTANTHUS SPIRALIS, *Burchell.* THE SPIRAL-LEAVED CYRTANTHUS.

ENGRAVINGS.—Bot. Reg. t. 167; Bot. Cab. 1945.

SPECIFIC CHARACTER.—Flowers about seven, pendulous, sub-ventri-

cose, orange-red, yellow below; style shorter than the tube. Leaves spiral, glaucous. *W. Herb.*

DESCRIPTION, &c.—A very curious species, from the curling of the leaves, which are flat, and form a number of small rings like the twisting of a corkscrew. The species was found by Mr. Burchell, "at Uitehage, near Algoa Bay, in the territory belonging to the colony of the Cape of Good Hope," and introduced by him in 1815. *Cyrtanthus spiralis* is very nearly hardy, and only requires the shelter of a greenhouse in winter; but as it very seldom produces offsets, it is always a scarce plant, and nearly all the bulbs of it sold in England, are imported direct from the Cape.

6.—CYRTANTHUS STRIATUS, *W. Herb.* THE STRIPED CYRTANTHUS.

ENGRAVING.—Bot. Mag. t. 2534.

SPECIFIC CHARACTER.—Flowers three or four, pendulous, narrow, funnel-shaped, red striped with yellow; filaments shorter than the

style, longer than the perianth. Leaves long, sub-acute, speckled with red below. *W. Herb.*

DESCRIPTION, &c.—This species is perhaps less ornamental than any other. The flowers are long and narrow, and seldom more than three in the umbel, while the violent contrast displayed in the stripes of red and yellow is far from agreeable. It is a native of the Cape, whence it was introduced in 1823.

7.—CYRTANTHUS ANGUSTIFOLIUS, *Lin. fil.* THE NARROW-LEAVED CYRTANTHUS.SYNONYME.—*Crinum angustifolium*, *Linn.*

ENGRAVINGS.—Bot. Mag. t. 271; and Bot. Cab. t. 368.

SPECIFIC CHARACTER.—Flowers four or five, pendulous on one side;

narrow, funnel-shaped, orange-red; style just longer than the limb and filaments; leaves narrow, sub-obtuse, red below. *W. Herb.*

DESCRIPTION, &c.—This is the hardiest and the most easily propagated of all the species; indeed, at Mitcham, in Surrey, Mr. Herbert found it become quite a weed with him, "ripening seed freely; and the seedlings quickly came to a flowering age, and were vigorous." The reason appears to be that the soil of Mitcham Common suited it, (this soil being a "light brown earth with a little admixture of dead furze leaves on a gravelly substratum,) as the Messrs. Rollison had equal success with this species in their nursery at Tooting, which is very near Mitcham. *C. angustifolius* is a native of the Cape, whence it was first introduced in 1774. It is easily propagated, both by seeds and offsets; but the bulbs sold in the shops are generally imported from Holland. The flowers are handsome in themselves, as they are orange-scarlet; but the plant is not very showy, as there is seldom more than three or four flowers in the umbel.





*Hyacinthus uniflorus* et *Hyacinthus orientalis*



3.—CYRTANTHUS ODORUS, *Ker.* THE SWEET-SCENTED CYRTANTHUS.

ENGRAVINGS.—Bot. Reg. t. 533; and our *fig.* 3 in Plate 35.

SPECIFIC CHARACTER.—Flowers about four, crimson, fragrant, | declined, narrow, funnel-shaped; filaments short; style much longer; leaves linear. *W. Herb.*

DESCRIPTION, &c.—This species is easily distinguished from all the others by its fragrant flowers and linear leaves. It is also much smaller in all its parts; and from this circumstance, the elegance of its shape, and the rich colour of its flowers, it is a very desirable species to cultivate. It may be planted in the open border in spring, when it will flower in July or August. It should be taken up in September or the beginning of October, and either preserved dry, or kept in a greenhouse during the winter.

## OTHER SPECIES.

*C. VENTRICOSUS*, *Willd.*; *C. ANGUSTIFOLIUS*, *Jacq.*

This species is very nearly allied to *C. spiralis*; in fact, it can only be distinguished by the leaves, which are dark green, and not spiral. It is a native of the Cape, but does not appear to have been introduced.

*C. LUTESCENS*, *W. Herb.* *C. ALBO-LUTEUS*, *Burch.* *MONELLA OCHROLEUCRA*, *Herb. App.*

Very nearly allied to *C. odoratus*, but with cream-coloured flowers. Not yet introduced in a living state.

## GENUS XXVIII.

GASTRONEMA, *W. Herb.* THE GASTRONEMA.

*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Germen declined; tube below slender, curved above, wide-campanulate; limb short, reflex; filaments decurrent, conniving,—three upper longer, incurved; the petaline inserted at the top, | and the sepaline near the middle of the tube; anthers short; style declined, pressed against the lowest petal. *W. Herb.*

DESCRIPTION, &c.—This genus consists of only one species, the *Cyrtanthus uniflorus* of the Bot. Reg. The name of *Gastronema* signifies, a ventricose or swelled-out filament.

1.—GASTRONEMA CLAVATUM, *W. Herb.* THE CLAVATE GASTRONEMA.

SYNONYMS.—*Cyrtanthus uniflorus*, *Ker.*; *Amaryllis clavata*, | in Plate 35, under the name of *Cyrtanthus uniflorus*.  
*L'Hérit.*; *A. pumilio*, *Aiton*; *A. tubiflora*, *Banks. Herb.*

ENGRAVINGS.—Bot. Reg. t. 168; Bot. Mag. t. 2291; and our *fig.* 2 | SPECIFIC CHARACTER.—Flowers one or two, white striped with red; leaves slender, attenuated below, dark green. *W. Herb.*

DESCRIPTION, &c.—This is the only South African plant belonging to this order that is ever found with a single flower, except *Gethyllis*. *Gastronema clavata* has not, however, always a single flower, for Mr. Burchell has many two-flowered specimens in his Herbarium. It is a small plant which will flower freely in the open ground in summer, if the bulbs be planted in spring; but as it requires to be kept dry in winter, the bulbs should be taken up before the approach of that season. The bulb is small, and nearly round; and the leaves are narrow, and stand erect. It may be purchased at Carter's, Holborn, and at other seed-shops.



## GENUS XXIX.

VALLOTA, *W. Herb.* THE VALLOTA.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Germen erect, tube straight, wide; limb funnel-shaped, filaments conniving, adhering by one side only to the tube the petaline to the summit of the tube or even to the petals, the sepaline lower); anthers affixed at one-third from the bottom, or rather nearer to the middle, sub-erect; style declined. *W. Herb.*

DESCRIPTION, &c.—There is only one species of this genus, *Vallota purpurea*. It was named by Mr. Herbert in compliment to M. Vallot, a French botanist.

1.—VALLOTA PURPUREA, *W. Herb.* THE PURPLE VALLOTA.

SYNONYMES.—*Amaryllis purpurea*, *Ait.*; *A. elata*, *Jacq.*; *A. speciosa*, *L'Hérit.*; *Crinum speciosum*, *Linn.* | numerous, convolutely lorate, obtuse.  
 ENGRAVINGS.—*Bot. Mag.* t. 1430. | VARIETY.—V. p. 2 minor, *W. Herb.*; *Bot. Reg.* t. 552. Flowers smaller.  
 SPECIFIC CHARACTER.—Flowers 2—4 in an umbel, upright. Leaves

DESCRIPTION, &c.—This is a most beautiful plant, from its large lily-like flowers, which are of a brilliant scarlet. It is the only bulbous plant belonging to the *Amaryllidaceæ*, which Dr. Burchell “found growing in boggy peat in Africa. It delights so much in wet, that it will thrive even in water.” Mr. Herbert adds that its decayed coats are so very retentive of moisture, and so impenetrable to the air, that the plant will not thrive “unless they are pulled off, if the bulb be above-ground; and although it is very thirsty, the bulbs are often lost by rottenness, and are very apt to decay on the voyage from the Cape.” Mr. Herbert also says the plant should be kept always growing, and does not object to the stove in winter; but a correspondent to the *Gardeners' Chronicle*, Feb. 6, informs us that this is by no means necessary, as he has kept plants of this species three years, which have flowered regularly by the following treatment:—The bulbs are potted in September or October, “in good-sized pots in a mixture of loam, sandy peat, and leaf-mould; being merely kept in a greenhouse, with but very little water through the winter; and about May they are set in the open air in pans of water under a south wall; where, about June or July, they throw up their splendid scarlet flowers, which last fully a week or more. They would be very ornamental plunged at the edge of a warm sunny pond, forming a good contrast with *Crinum capense*, *Nymphaea alba*, &c. About October they are removed into winter-quarters.” They are increased by offsets, taken off, and fresh-potted in April. This very handsome plant may be purchased at Carter's, Holborn, under the name of *Hippeastrum purpureum*, and at other seed-shops sometimes under the name *Amaryllis speciosa*, or *A. purpurea*, and sometimes under its modern name *Vallota*.

## GENUS XXX.

CHLIDANTHUS, *W. Herb.* THE CHLIDANTHUS.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Tube erect, cylindrical, triangular, widened at the mouth; limb nearly equal, semi-patent; filaments very short, curved, inserted in the points of the alternately unequal teeth of a thin membrane adhering completely to the tube and base of the petals, but porta-

ble; anthers attached near the base; style erect. Germen erect, oblong, triangular; stigma trifid, patent; leaves linear-lorate, sheathing at the base; umbel few-flowered. *W. Herb.*

DESCRIPTION, &c.—The name of Chlidanthus signifies delicate flower; but this name seems misapplied, as the flower of the single species described is showy rather than delicate. It is a native of Peru, and was first confounded with Clanthus, from which it proves to be quite distinct; the flowers of the former species being twice as large, and the limb four times as large. Clanthus does not appear to have been yet introduced, as Mr. Herbert describes it from a dried specimen.

1.—CHLIDANTHUS FRAGRANS, *W. Herb.* THE FRAGRANT CHLIDANTHUS.

SYNONYMES.—*Pancratium luteum*, *Pavon*; Yellow Sea Daffodil.

ENGRAVINGS.—Bot. Reg. t. 640; and our *fig.* 1 in Plate 36.

SPECIFIC CHARACTER.—Leaves very narrow, glaucous, erect. Flowers

three or more in the umbel; germen subsessile; tube longer than the limb; style longer than the filaments, and shorter than the limb; stigma widely trifid. Ovules numerous.

DESCRIPTION, &c.—This showy flower, unlike most others of its colour, is remarkable for its fragrance, which has been compared to that of frankincense. The plant, Mr. Herbert observes, increases so rapidly by offsets and splitting the main bulb, that it is difficult to keep bulbs of a size to flower. It grows very vigorously, and flowers in June or July, in a border of which the soil is much warmed by contact with the wall of a stove. In the open garden it flourishes if taken up and kept dry in winter, but the bulbs seem liable to canker in peat. Mr. Herbert adds that the plant has very much the constitution of the tender *Narcissi*, and likes a fertile loam. It thrives in the open border during summer; but except where the ground is heated by a flue, or by the heat emanating from a stove, the bulbs, if not killed by frost during winter, are injured by excess of moisture. They should be taken up in autumn without destroying the fibres, and placed in a pot of sufficient size to allow them to be covered with dry sandy soil. "They may then be set in any dry warm situation till April, when, however dry they may be, they will begin to sprout. All offsets should then be taken off, and they may be set either in pots or in a sunny border." (*Herb. Amaryll.*, p. 192.) The species was introduced in 1821, and bulbs of it may be procured at Carter's and other seed-shops.

## GENUS XXXI.

URCEOLINA, *W. Herb.* THE URCEOLINA.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Bulb roundish; leaves petiolated, broad-oval, æstival; germen ovate, three-furrowed; peduncles curved; flowers pendulous; tube straight, slender, cylindrical, enlarged at the mouth;

limb ventricose; anthers incumbent, style straight, stigma obtuse. Seeds numerous, small. *W. Herb.*

DESCRIPTION, &c.—There is only one species. The name *Urceolina* signifies a small pitcher, and alludes to the shape of the germen.

1.—URCEOLINA PENDULA, *W. Herb.* THE PENDULOUS URCEOLINA.

SYNONYMES.—*U. fulva*, *W. Herb.* ; *Collania urceolata*, *R. et Seb.* ; *Crinum urceolata*, *Ruiz et Pav.*

ENGRAVINGS.—*Herb. Amaryll.* t. 26, *fig.* 5, from a dried specimen.

SPECIFIC CHARACTER.—Umbel of 5—9 flowers with curved pedun-

cles shorter than the spathe. Filaments longer than the limb, the upper sepalines elongated; stigma small; anthers short, and a third part affixed.

DESCRIPTION, &c.—This plant flowered with Mr. Herbert in June 1838, having been kept dry in the greenhouse during the previous winter. It is a native of the Peruvian Andes, where it was found in steep broken ground. In England it likes a strong rich loam, and a shady situation; as the leaves wither if exposed to a hot sun. In its native habitat, it grows in thick woods completely impervious to the sun. “The bulbs increase by offsets, of which the leaf pushes up at some distance from the parent.” The species may be grown in the open border during summer; but when this is the case, it must be taken up in autumn, and kept hot and dry during winter. The flowers are yellow tinged with red, and with a bright green edge, like those of some kinds of *Alstrœmeria*. The species was introduced about 1835, and it is still rare.

## GENUS XXXII.

STENOMESSION, *W. Herb.* THE STENOMESSION.

*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Bulb roundish, neck very narrow; leaves at first compressed at the margin. Umbel 2—6 or more flowered, pedunculated; tube constricted in the middle, wider upwards, a little curved; limb short; filaments straight, connected by a membrane:

anthers short, incumbent; style straight, before maturity sloping; stigma dilated; capsule broad-ovate, 3-furrowed, 3-lobed, 3-celled; seeds black, obliquely oblong. *W. Herb.*

DESCRIPTION, &c.—This genus was detached from *Pancratium* by Mr. Herbert, and named *Stenomeson* on account of the narrowness of the tube in the middle, and its dilatation both above and below. The name given to the genus by Mr. Ker, *Chrysiphiala*, signifying the golden hour-glass, alludes to the same peculiarity; the species are natives of Peru, and rather tender in this country.

1.—STENOMESSION FLAVUM, *W. Herb.* THE YELLOW STENOMESSION.

SYNONYMES.—*Pancratium flavum*, *Ruiz et Pav.* ; *Chrysiphiala flava*, *Ker.*

ENGRAVINGS.—*Bot. Mag.* t. 2641; *Bot. Reg.* t. 778.

SPECIFIC CHARACTER.—Perianth golden; teeth of the cup straight, irregular; filaments a little, and style much longer than the limb. *W. Herb.*

DESCRIPTION, &c.—A native of sandy hills in Peru, introduced about 1820, by our kind, and much-respected friend, Mr. Lambert, in whose collection at Boyton it flowered for the first time in 1824. It is properly a stove-plant; but in warm situations it may sometimes be kept in a greenhouse.

2.—STENOMESSION CURVIDENTATUM, *W. Herb.* THE CURVED-TOOTHED STENOMESSION.

SYNONYME.—*Sphærotile peruviana*, *Prid.*

ENGRAVINGS.—*Bot. Mag.* t. 2640, and our *fig.* 3 in Plate 36.

SPECIFIC CHARACTER.—Perianth golden, slender, teeth of the cup long, bifid, recurved; style and filaments equal, longer than the limb; flowers 2—7. *W. Herb.*

DESCRIPTION, &c.—This species “likes a sandy soil, shade and plenty of moisture in summer;” with “complete rest in winter. It flowers before the leaves rise.”

STENOMESSION CROCEUM, *Domberg*; PANCRATIUM CROCEUM, *Red.*; *Bot. Mag.* t. 3615.

Is a beautiful plant; introduced in 1836 from Lima, and requiring a stove in England.





*1. Helianthus luteus*    *2. Helianthus luteus*    *3. Helianthus luteus*    *4. Helianthus luteus*  
*Helianthus luteus*    *Helianthus luteus*    *Helianthus luteus*    *Helianthus luteus*



GENUS XXXIII.  
EUCROSIA, *Ker.* THE EUCROSIA.

*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Bulb round; leaves wide, petiolated; scape tapering; umbel 4 or more flowered; germen erect; ovules oblong, heaped in two rows, alternating, attached at the inner angle of the cell; tube oblique, abbreviated underneath; limb compressed, recurved; segments alternately alike; cup declined, abbreviated and rostrate

above, shovel-formed and prolonged below; filaments long, recurved; anthers attached at one-third from the top, pendulous; style at first sloped down, afterwards recurved; stigma obtuse, dilated, downy. Fruit not seen, but capsule evidently ovate, 3-furrowed. *W. Herb.*

DESCRIPTION, &c.—There is only one species of this genus the name of which is said to mean “well-fringed,” but it is difficult to discover how it applies.

1.—EUCROSIA BICOLOR, *Ker.* THE TWO-COLOURED EUCROSIA.

ENGRAVINGS.—Bot. Reg. t. 207; Bot. Mag. t. 2490; and our *fig. 5* in Plate 36. SPECIFIC CHARACTER.—Leaves broad and long, following the flower. Umbel 4-flowered.

DESCRIPTION, &c.—This very curious plant is stated in Sweet's *Hortus Britannicus* to be a native of Cape Horn; but Mr. Herbert doubts this assertion, as some plants of it kept by Mr. Lee of the Hammersmith Nursery in a cold frame were killed by frost. Mr. Herbert has himself kept it in “a very dry part of the greenhouse without water in the winter. In summer it is thirsty and requires shade, having much the same habit as *Urceolina*. It thrives in a pretty strong alluvial soil.” (*Herb. Amaryll.* p. 201.) This plant was introduced by Mr. Lee, of Hammersmith, in 1816, and it flowered with him the following year about the end of May, in a garden-pit. He continued to keep his bulbs in a cold frame till they were all killed in the severe winter of 1819.

GENUS XXXIV.  
CALOSTEMMA, *R. Br.* THE CALOSTEMMA.

*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Bulb ovate; leaves linear-lorate; umbel many-flowered, pedunculated; germen by defect 1-celled; ovules 2-3; tube cylindrical; limb funnel-shaped; crown often irregularly slit;

filaments short, erect; anthers small, erect, attached near the base; style attenuated; stigma simple, small; seeds 1-2, green, fleshy, flattened on one side by contact. *W. Herb.*

DESCRIPTION, &c.—These very pretty plants are natives of Australia, whence both species were imported in 1817. The name of *Calostemma* signifies “a beautiful crown,” and it was given to the genus by Dr. Brown, in allusion to the beautiful crowns of flowers which each umbel seemed to form. They appear nearly hardy, but they require abundance of water to make them flower.

1.—CALOSTEMMA PURPUREUM, *R. Br.* THE PURPLE CALOSTEMMA.

SYNONYME.—*Pancretium* Macquaria, *Hort.*

ENGRAVINGS.—Bot. Mag. t. 2100; Bot. Reg. t. 422; and our *fig. 4*, in Plate 36.

SPECIFIC CHARACTER.—Umbel many-flowered; leaves not appearing till after the flowers; crown toothed with triangular teeth, and deeply slit.

DESCRIPTION, &c.—This very pretty plant was first discovered by Dr. Brown on the south-west side of New Holland, near the head of Spencer's Gulf; and it was described by him in his *Prodromus*. It was not, however, introduced till it was re-discovered by the expedition sent from Port Jackson in 1816, to explore the country to



the south-west, when it was found beyond the Blue Mountains. It is very nearly hardy in England, and only requires a slight protection from severe frosts. In spring it should be kept rather moist, and it flowers best in a pot, set half-way up in water. Its time of flowering is July.

## 2.—CALOSTEMMA LUTEUM, *R. Br.* THE YELLOW CALOSTEMMA.

ENGRAVINGS.—Bot. Mag. t. 2101; Bot. Reg. t. 421.

SPECIFIC CHARACTER.—Leaves appearing with the flowers; crown-toothed with small indentations, and not slit.

DESCRIPTION, &c.—A very handsome plant, with golden yellow flowers, stained with six rich crimson spots at the base of the cup. It was discovered and sent to England at the same time as the preceding species, and the culture is exactly the same of both.

## 3.—CALOSTEMMA ALBUM, *R. Br.* THE WHITE CALOSTEMMA.

SPECIFIC CHARACTER.—Teeth of the cup linear emarginate. *W. Herb.*

DESCRIPTION, &c.—The difference between the three species is so slight that they will probably prove to be only varieties. The contrast of white, purple, and yellow has a good effect when they are grown in the same bed, or in pots kept near together.

# GENUS XXXV.

## EURYCLES, *Sal.* THE EURYCLES.

*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Limb straight; filaments erect; anthers erect; dissepiments imperfect; ovules protruding the embryo. *W. Herb.*

DESCRIPTION, &c.—Great confusion appears to exist respecting this genus. Mr. Herbert named it *Proiphys*, and no less than three derivations are given for the name of *Eurycles*, by which it was designated by Mr. Salisbury: one of these is, that it is from two Greek words, signifying a broad leaf; another that it is a mythological name; and the third, that it is from the Greek words *eurus*, broad, and *kleio*, to close up; in allusion to the dilated state of the stamens, which close up, as it were, the opening of the tube of the perianth. In Sweet's *Hortus Britannicus* also, the names of four species are given, while Mr. Herbert describes only two, one of which is hardy, and the other tender. The latter, *E. amboinense*, is a native of the East Indies, and will not live in England without a stove; this species of Mr. Herbert includes the two kinds, called by Sweet, *E. coronata* and *E. nuda*. The other species, which Mr. Herbert calls *E. australasicum*, includes the *E. alata* and *E. Cunninghamii* of Sweet. All the kinds have the curious property of the seeds germinating in the capsule, and even producing small bulbs there, which protrude themselves as soon as the capsule becomes sufficiently ripe to burst.

## 1.—EURYCLES CUNNINGHAMII, *Lindl.* MR. CUNNINGHAM'S EURYCLES.

SYNONYMES.—*E. australasica*, *W. Herb.*; *E. alata*, *Swt.*; *Calostemma Cunninghamii*, *Hort.*; *Pancratium australasicum*, *Ker.*

ENGRAVINGS.—Bot. Reg. t. 715, and 1506; and our *fig.* 2, in Pl. 36.

SPECIFIC CHARACTER.—Leaves narrow; cup of the perianth split to the base.

DESCRIPTION, &c.—A rather handsome species, with broad, dark green leaves, and white flowers. It is a native of New South Wales, whence bulbs were first sent here by Mr. Cunningham, in 1821. It flowers freely in March and April, if grown in sandy loam and kept in a greenhouse; but the flowers are so much larger when it is kept in a stove, that it has been described and figured as a different species.

## GENUS XXXVI.

PANCRATIUM, *Lin.* THE SEA DAFFODIL.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Bulb ovate or roundish; perianth with a cylindrical tube and patent limb; filaments stiff and conniving; anthers short, sub-erectly incumbent. *W. Herb.*

DESCRIPTION, &c.—All the species of this genus have white or whitish-green flowers, and they are all fragrant. *P. maritimum* is often confused with *P. carolinianum*, which is probably a variety of it, and with *P. illyricum*, from which it is quite distinct. The latter is the kind usually sold in the seed-shops as *P. maritimum*. The East and West Indian kinds are omitted in the following pages, as they will not live in this country without a stove. All the *Pancratiums* have the cup conspicuous, and toothed more or less deeply, with the anthers attached to it, being divided from each other by two teeth. The common and American kinds retain their leaves during winter; but in all the others the leaves are deciduous. The name of *Pancratium* signifies all strength, in allusion to the great use which the ancients are supposed to have made of this plant in medicine.

## SECTION I.—FLOWERS SUBSESSILE; LEAVES PERSISTENT.

1.—PANCRATIUM MARITIMUM, *Lin.* THE COMMON SEA DAFFODIL.

SYNONYME.—*Heimerocallis valentina*, *Clus.*

ENGRAVINGS.—*Bot. Reg.* t. 161; and our *fig.* 2, in Plate 37.

SPECIFIC CHARACTER.—Limb with the segments partly attached to the cup, and partly reflexed; cup cylindrical, with short teeth; flowers fugacious; leaves acute, glaucous, and sheathing at the base.

DESCRIPTION, &c.—Every one who has visited the south of France and Italy must have noticed the fragrant flowers of the Sea Daffodil, which are so abundant on the sands of the sea-shore. This plant is common, indeed, all along the shores of the Mediterranean; and its glaucous leaves and white flowers make it look almost as though it had sprung from the foaming waves, and still retained their colours. It was introduced into England before the time of Gerard, who lived in the reign of Elizabeth; and consequently it has been in cultivation in British gardens for nearly three centuries. It is not, however, by any means easy to manage; as the open beach on which it grows naturally, is exposed at the same time to the burning rays of the sun, and the cold winds from the Mediterranean. Thus, though the bulb requires excessive heat, the flower-buds will not form without abundance of fresh, cool air, and the leaves flag and even wither if exposed to the heated atmosphere of a stove. A flued border in an open, airy situation would probably be most suitable to it; at any rate, it must be planted in the open ground in spring, and suffered to remain there till the flower-buds have formed. This species is rarely to be met with, as the large bulb sold under the name of *P. maritimum* in the seed-shops is generally *P. illyricum*. The true sea daffodil is very difficult to propagate in this country, as it very seldom produces offsets; and plants raised from its seeds are many years before they flower.

2.—PANCRATIUM CAROLINIANUM, *Lin.* THE CAROLINA PANCRATIUM.SYNONYME.—*P. maritimum*, *Pursh.*ENGRAVING.—*Bot. Reg.* t. 927.SPECIFIC CHARACTER.—Limb with the segments erect, and longer than the cup; cup campanulate, with deep teeth; leaves scarcely sheathing, and wider and less acute than those of *P. maritimum*.

DESCRIPTION, &c.—This *Pancratium* is a native of Georgia and Carolina, and it will probably prove only a variety of *P. maritimum*. It was introduced before 1739, and will not flower in England after the first year without artificial heat. This plant differs in habit from the common sea daffodil, as it is more easily flowered, and produces abundance of offsets. The appearance is also somewhat different, as the umbels are much longer, and the flowers have more green in them. The bulb should be planted in a warm, dry, sandy bank, and protected during winter. Catesby states that he found the Carolinian *Pancratium* growing in moist, boggy earth; but Mr. Herbert informs us that the plant Catesby has figured is not a *Pancratium* but “a very bad representation of *Hymenocallis rotata*,” which does grow in moist places. All the *Pancratiums*, on the contrary, like a hot, sandy soil, and their fibres are apt to rot if over-watered.

## SECTION II.—FLOWERS PEDUNCULATED; LEAVES DECIDUOUS.

3.—PANCRATIUM ILLYRICUM, *Lin.* THE ILLYRIAN SEA DAFFODIL.SYNONYMS.—*Pancratium stellare*, *Salis.*; *Narcissus marinus*, *Gerard*; *Halmyra Illyrica*, *Salis.*ENGRAVING.—*Bot. Mag.* t. 718.

SPECIFIC CHARACTER.—Perianth funnel-shaped; limb spreading; cup very short, deeply cut; leaves broad-lorate, somewhat fleshy.

DESCRIPTION, &c.—A handsome plant, with large umbels of white, star-like flowers, which are yellow inside, and so unlike those of the other species of the genus as not to seem to belong to them. The bulbs are large, and elongated in the shape of an oil-flask. The flowers are very fragrant, and the plant frequently ripens its black, shining seeds, which are conspicuous from their raised white raphe. The bulb should be planted in the open ground, in a loose sandy soil, in front of a southern wall; and it should not be removed oftener than once in three or four years. The seeds vegetate easily; but as the seedlings are several years before they flower, the plants in British gardens are mostly from bulbs imported from Holland with the hyacinths. The species is a native of Corsica, Sardinia, and Sicily, and it is about as hardy as the common Crown Imperial. In fact, it is seldom killed, except by excessive wet. It has been in cultivation in England since the time of Charles I.

4.—PANCRATIUM CANARIENSE, *Ker.* THE CANARY SEA DAFFODIL.ENGRAVING.—*Bot. Reg.* t. 174.

SPECIFIC CHARACTER.—Perianth funnel-shaped; segments of the

limb spreading; cup short, toothed with shallow teeth; leaves glaucous, lorate-lanceolate.

DESCRIPTION, &c.—A very pretty plant, with rather small white flowers, which have a shorter cup than those of *P. maritimum*, though longer than those of *P. illyricum*. It is a native of the Great Canary, whence it was introduced in 1815. Its culture and degree of hardiness resemble those of *P. illyricum*.





1. *Thalictrum flavum* - 2. *Thalictrum flavum* - 3. *Thalictrum flavum*



## GENUS XXXVII.

HYMENOCALLIS, *Salisbury*. THE HYMENOCALLIS.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Limb reflex; tube straight; filaments erect, a little conniving; anthers long, attached at a point below the middle, versatile, pendulous; seeds large, oblong. *W. Herb.*

DESCRIPTION, &c.—The plants belonging to this genus are easily distinguished from all the species of *Pancratium*, by the membrane which unites the long segments of the limb, and which gives its name to the genus, *Hymenocallis* signifying beautiful membrane. Most of the species require a stove; but one is quite hardy, and another nearly so—both being natives of North America. All the species are very much alike, and not easily to be distinguished by a common observer.

1.—HYMENOCALLIS ADNATA, *W. Herb.* THE ADHERING HYMENOCALLIS.

SYNONYME.—*Pancratium litorale*, *Jacq.*

SPECIFIC CHARACTER.—Segments adhering to the base of the cup.

VARIETIES.—These are numerous, but they differ very little from each other. The following are described by Mr. Herbert.

H. a. 2 *Driandrina*, *W. Herb.*; *P. litorale*  $\beta$ , *Bot. Mag.* t. 825; *P. Mexicanum*, *Hart.* Tube rather shorter than the segments.

H. a. 3 *distycha*, *W. Herb.*; *P. distychum*, *Bot. Mag.* t. 1879. Segments and tube nearly equal. Leaves rather broader, and strongly nerved.

H. a. 4 *acutifolia*, *W. Herb.*; *H. litoralis*  $\delta$ , *Bot. Mag.* t. 2621, and our fig. 3 in Plate 37; *Pancratium Mexicanum*, *Bot. Reg.* t. 940; *P. acutifolium*, *Swt.* Segments shorter than the tube. Leaves narrow, acute, erect. Style not protruding, and much shorter than the stamens; cup denticulated.

H. a. 5 *Staplesiana*, *W. Herb.* Segments much longer than the tube. Cup deeply toothed, with stamiferous teeth. Leaves erect, broad, channelled, attenuated at the base.

DESCRIPTION, &c.—All the varieties of this species, Mr. Herbert tells us, “are much hardier than the rest of the genus, and are decidedly aquatic or swamp plants.” The species, though evidently the same as that which Jacquin says he found near Carthagena, lat. 11°, Mr. Herbert found quite hardy. He says, “I purchased the plant twenty years ago at the Hammersmith Nursery, under the name of *Pancratium Mexicanum*, and Mr. Kennedy asserted it to be from Mexico; and Mr. Loddiges has lately imported many bulbs which appear to be similar, direct from Mexico. It is so hardy that an offset which I set against the front wall of the stove about fourteen years ago grew vigorously there, and although the snow lay upon it some weeks the first winter, its leaves were not killed quite to the ground, and it grew into a tuft with many offsets, and flowers most numerous.” Mr. Herbert also mentions that it will grow vigorously in a cistern of water, and that he has had sixteen flowers on one scape. “Var. 2 and 3,” he adds, “are only distinguished by a little difference of the tube, which in both is shorter than in the first. Var. 4 has the leaves narrower and less erect than the others. It was sent to Sir Alexander Johnstone direct from Mexico, and is such a decided aquatic, that I have a seedling plant of it now in flower in a cistern, where it has been submerged for a few weeks after it sprouted from the seed some years ago. It a hardy greenhouse plant, but a little warmth promotes its flowering.” This variety is the one figured in our Plate 37, under the name of *Hymenocallis litoralis*. Mr. Herbert continues: “Var. 5 was sent to Mr. Tate, of Sloane-street, by Mr. Staples, from Mexico. It is remarkable from the number of offsets it produces, which rather impede its flowering. It is the hardiest of all the varieties, and having been placed about half a yard from the wall of the stove in front of some bulbs of the species, it has grown with such luxuriance as almost to overpower them, forming a very thick and increasing tuft of leaves about two feet high. Some bulbs of it,



which were placed in 1835 in a border in the middle of the garden, and covered with a few leaves in the winter, have survived, but seem to want frequent watering; a few bulbs in a pot, set on a step in a pond, are growing vigorously. This variety has flowered and ripened seeds out of doors in front of the stove." All these plants are well deserving of cultivation, from their great beauty and singularity. The species was introduced in 1758; *H. a. 2 Driandrina* in 1782; *H. a. 3 distycha* in 1812; *H. a. 4 acutifolia* in 1824; and *H. a. 5 Staplesiana* in 1826.

## 2.—HYMENOCALLIS ROTATA, *W. Herb.* THE WHEEL-LIKE HYMENOCALLIS.

SYNONYMES.—*H. r. 1 quadriflora*, *W. Herb.*; *Pancratium rotatum*, *Ker.*; *P. Carolinianum*, *Catesby*; *Ismene Knightii*, *Kn. et West.*

ENGRAVINGS.—*Bot. Mag.* t. 827; *Bot. Cab.* t. 19; *Floral Cabinet*, vol. 2, p. 51.

SPECIFIC CHARACTER.—Leaves suberect, subspatulate. Scape

2—4-flowered, with a widely spreading cup.

VARIETIES.—*H. r. 2 disciformis*, *W. Herb.*; *Pancratium Mexicanum*, *Lin.*; *P. rotatum a.*, *Bot. Mag.* t. 1082; *P. disciforme*, *Redouté Liliacées*, t. 155. Two-flowered, all the parts smaller; cup less rotate.

DESCRIPTION, &c.—Both these plants are natives of swamps in North America; the species is found in Virginia, whence it was introduced in 1803, and the variety is a native of Florida; but both require protection in this country. The culture of both is difficult; as "the young rising leaves of both, in a stove or greenhouse, perish if a drop of water lodges among them." This injury was not, however, so perceptible when the pot in which the plant grew was set in a pan of water. They were tried out of doors, but only lived two years, and then died without having flowered.

## GENUS XXXVIII.

### ISMENE, *Salis.* THE ISMENE.

#### *Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Filaments deflexedly conniving; ovules lanceolate; tube curved, cylindrical; cup large; stigma obtuse; erect; seeds fleshy, green, round; bulb ovate; leaves deciduous, linear. anther attached scarcely below the middle. *W. Herb.*

DESCRIPTION, &c.—The very handsome flowers which belong to this genus bear a considerable resemblance to those of the daffodil; they are very handsome, and of comparatively easy culture. The genus was separated from *Pancratium* by Mr. Salisbury, and it was named, for what reason it is difficult to define, after Ismene, the daughter of Œdipus and Jocasta. The species are all natives of Peru, and if taken up in winter, like tulips, they may all be flowered in the open ground. The great points to be attended to are growing the plants in pure sand, and taking up the bulbs in winter.

## 1.—ISMENE AMANCAES, *W. Herb.* THE PERUVIAN AMANCAES.

SYNONYMES.—*Pancratium Amancaes*, *Ker.*; *Narcissus Amancaes*, *Ruiz et Pavon*, the Golden *Pancratium*.

ENGRAVINGS.—*Bot. Mag.* 1224; and our *fig. 1*, in Plate 37.

SPECIFIC CHARACTER.—Leaves acute, sheathing cylindrically; germen sessile; tube green, furrowed, equal to the limb; limb yellow; cup nearly as long, yellow, with six green stripes, and bifid jagged intervals. *W. Herb.*

DESCRIPTION, &c.—This is the celebrated *Amancaes* of the Peruvians, in honour of which they hold every year a kind of religious ceremony; in which holy images are strangely mixed up with scenes of dancing and feasting. On the 24th of June the inhabitants of Lima sally forth on horseback, in carriages, and on foot, and

passing through the Almeda, or common promenade, they proceed to some hills about two miles from the city, which, though usually bare of vegetation, are then yellow with the flowers of the *Amancaes*. On the sandy or volcanic soil of these hills innumerable booths are erected; and here the visitors take refreshment after walking to and fro, and decorating themselves and their horses with the flowers of the *Amancaes*. The amusements of the day consist principally of music and dancing, and these are strangely mixed up with religious ceremonies, till in the evening, the crowds return to the city, so laden with flowers, as to look, in the light of the setting sun, like a stream of molten gold.

The *Amancaes* was first brought to England in 1804, and it was for some years kept in a hothouse. Mr. Herbert, however, finds that by giving the plants absolute rest during winter, and growing them in a light sandy soil, they may be made to flower in the open border. When he plants the bulbs, which he does in April or May, he has a large potful of earth taken out of the border, and the hole filled with pure white sand for each bulb; very little water should be given; and thus treated, if the season be not too wet, the plants will flower in July. If they are wished to flower earlier, the bulbs must be planted in a very sandy compost, without peat, in a pot, which must be set in a stove, and moderately watered every day. The flower-buds will appear immediately; but the plant should be removed to the greenhouse before they expand, or they will wither rapidly. The hybrid Mr. Herbert raised between this species and *I. Calathina*, which is very vigorous, may be forced in the same manner. The seed of this species "is large and round, and vegetates immediately in a remarkable manner, forming a bulb as big as itself, and sometimes bigger, far under ground, without pushing any leaf. As soon as the seed rots, the young bulb must be left without water till the following spring. A person unaware of the peculiarity of this genus and *Choretis*, when he found the seed rotten would be likely to throw away the earth, without suspecting the formation of the bulb near the bottom of the pot. Mr. Herbert also mentions that seedlings of the *Amancaes* if grown in loam will probably be twenty years before they flower, but if grown in pure white sand, or very sandy compost, they will generally flower the third year. He adds, that one of his hybrid seedlings had five leaves and was two feet high the second year. This hybrid (*I. A. 2. sulphurea*, Bot. Reg. t. 1665) was raised "from a seed of *I. Amancaes* which had been fertilised by the pollen of *I. Calathina*;" and it unites curiously the qualities of both parents. The flower is as large as that of *Calathina*, but the shape is that of *Amancaes*, and the colour is a pale yellow, or lemon colour. The scent is very powerful; and though not so delightfully fragrant as that of *Calathina*, it is not so disagreeable as that of *Amancaes*.

Both the species and the hybrid require absolute rest in winter, and if kept in pots during that season, they should have no water from the time the leaves decay till May.

## 2.—ISMENE CALATHINA, *W. Herb.* THE CUPPED ISMENE.

SYNONYMES.—*Pancratium calathiiforme*, *Red.*; *P. calathinum*, *Ker.*; Chalice-crowned Sea Daffodil; Basket-flowered Ismene.  
ENGRAVINGS.—Bot. Reg. t. 215; Bot. Mag. t. 2685.

SPECIFIC CHARACTER.—Leaves blunter than those of *I. Amancaes*, sheathing cylindrically; germen sessile; cup with large bifid, jagged lobes. *W. Herb.*

DESCRIPTION, &c.—A very handsome species, with large, pure white, delightfully fragrant flowers. It is said to be a native of Buenos Ayres, and it was introduced in 1816. Its culture is the same as that of *I. Amancaes*, but it is a more vigorous plant, and not so particular as to soil, as it will grow in any light soil either in pots or in the open ground. "*I. Calathina*," says Mr. Herbert, "thrives vigorously out of doors in a

border of sand and peat mixed ; and flowers in July and August, if the bulbs are planted out in April and taken up when the leaves decay in October or November. The soil being loose and light, it is easy to avoid breaking their strong fleshy fibres, which should not be injured. The bulbs so taken up should be put all together in a large pot, or a small tub, according to their number and size, and some light soil being poured over them, they should be placed at the back of a greenhouse, or in any shed where they will be preserved from the frost, and must have no water." This species was introduced in 1796, and it was for many years supposed to be a stove plant.

### 3.—ISMENE NUTANS, *W. Herb.* THE NAKED ISMENE.

SYNONYMES.—*Pancratium Calathinum*, *Ker* ; White Brazil *Pancratium*.

ENGRAVING.—*Bot. Mag.* t. 1561.

SPECIFIC CHARACTER.—Leaves erect, rather spatulate, scarcely vaginating ; flowers three or more ; germen sessile ; tube green, shorter than the limb ; cup white, dentate, jagged. *W. Herb.*

DESCRIPTION, &c.—This species is often confounded with *I. Calathina*, but it is easily distinguished by its jagged cup. It is said to be a native of Brazil ; but Mr. Herbert thinks some bulbs sent by Mr. Fraser "from East Florida, which were soon lost by planting them in peat, and watering them when at rest, appeared to be this plant." It was introduced by Lady Hume in 1796, and flowered for the first time at Wormleybury, but it appears now to be lost. The culture should be the same as that of *I. Calathina*.

### 4.—ISMENE PEDUNCULATA, *W. Herb.* THE STALKED ISMENE.

ENGRAVING.—*Herb. Amaryll.* t. 35, fig. 2.

SPECIFIC CHARACTER.—Leaves more acute and not sheathing so high as those of *Amancaes* ; scape pedunculated ; flower greenish ; cup

white, with green stripes, having bifid, jagged lobes ; style equal to the limb. *W. Herb. abridged.*

DESCRIPTION, &c.—A handsome species, with greenish-white flowers, which is hardier than any of the other kinds, "vegetates in a lower temperature, and flags sooner in hot weather." It is a native of Peru.

### 5.—ISMENE MACLEANA, *Herb.* MR. M'LEAN'S ISMENE.

ENGRAVING.—*Bot. Mag.* t. 3675.

SPECIFIC CHARACTER.—Germen on a short peduncle ; perianth

yellowish, striped with green ; limb and style longer than the cup ; flower fragrant ; leaves green.

DESCRIPTION, &c.—A very handsome and fragrant species, introduced from Lima in 1838. It is nearly allied to *I. pedunculata*, but it is much more tender than that species.

### 6.—ISMENE VIRESCENS, *Lindl.* THE GREENISH ISMENE.

ENGRAVING.—*Bot. Reg.* 1841, t. 12.

SPECIFIC CHARACTER.—Leaves erect, acute, sheathing at the base ;

scape two-flowered ; cup lobed, and the margin fringed with short teeth.

DESCRIPTION, &c.—This species is very nearly allied to *I. pedunculata*, "but the tube is longer, there are no green stripes on the coronet, and the leaves do not appear less sheathing at the base than in *I. Amancaes*." It is a native of Cusco, whence it was introduced in 1840. The flowers are of greenish white, and fragrant ; and they are produced from June to August. The species appears to require a greenhouse, and it is grown in a light sandy loam. Like all the species, it should be kept dry during winter. As it produces numerous offsets, it will probably soon become common in collections.



## GENUS XXXIX.

NARCISSUS, *Lin.* THE NARCISSUS.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth tubed; cup including the filaments; sepaline filaments prolonged; sepals wider than the petals; scape hollow upwards, more or less filled up below; peduncles solid, unequal. The principal fissures of the crown when it is three-lobed opposite the sepaline ribs, the indenture of each lobe opposite the petaline. Style mostly tripartite, sometimes by accident in semi-double or degenerated double flowers tripartite; ovules in from two to four rows, which are mostly imperfect and confused; seeds with a black shell. *W. Herb.*

DESCRIPTION, &c.—These beautiful flowers, some of which are so well known, and all of which are so worthy of being admired, have excited much attention in the botanical world from the arrangements that have been made of them, first by Mr. Salisbury, afterwards by Mr. Haworth, and lastly by Mr. Herbert. As Mr. Salisbury only published the names of his genera, without any definitions, it is needless to say more of them here; but as Mr. Haworth's genera have been adopted by some botanists, and their names have been retained as sectional divisions by others, it may be advisable here to give a short account of his system. In Mr. Haworth's Monograph, the old genus *Narcissus* is divided into the following sixteen genera:—

I. *AJAX*. (See our *fig. 1* in Plate 38.) Corona lobed, crenated, or serrated, about the length of the segments; stamens erect; leaves ensiform or lorate. This division includes all the kinds with a long cylindrical cup, like the common Daffodil.

II. *DIOMEDES*. (See our *fig. 2* in Plate 38.) Tube of corolla clavately cylindrical; corona large; stamens straight.

III. *CORBULARIA*. (See our *fig. 3* in Plate 38.) Segments of corolla small, usually shorter than the truncate corona; leaves filiform, channelled, green; stamens ascending. This division includes all the kinds of Hoop-petticoat *Narcissus*.

IV. *QUELTIA*. (See our *fig. 4* in Plate 38.) Spathe 1-flowered; corolla drooping; segments longer than the corona; corona campanulate, curled, a little lobed; stamens erect. The flower commonly called Butter-and-Eggs belongs to this division.

V. *TROS*. (See our *fig. 5* in Plate 38.) Spathe 1—2-flowered; corona rather plicately crenulated, twice as long as the segments; stamens erect.

VI. *ILLUS*. (See our *fig. 6* in Plate 38.) Spathe 2—4-flowered; corolla drooping; corona entire, much shorter than the segments; stamens inclosed, very unequal, three long, and three short, erect; leaves rushy, channelled. These are very elegant flowers.

VII. *ASSARACUS*. Spathe 2-flowered; corolla drooping; segments somewhat reflexed; corona somewhat undulated, equal to or longer than the segments; stamens inclosed, erect, three long, and three short; leaves flat.

VIII. *OILEUS*. Spathe 1-flowered; segments of corolla spreading; corona longer than, or length of, segments, entire; leaves lorate.

IX. *JONQUILLA*. (See our *fig. 7* in Plate 38.) Spathe 2—6-flowered; corolla stellately spreading; corona small, crenately crenulated; scape compressed; leaves semiterete, rushy. This division includes all the Jonquils.

X. *HELENA*. (See our *fig. 8* in Plate 38.) Spathe 1—3-flowered; segments of corolla stellately spreading, much shorter than the tube; stamens erect, unequal.

XI. SCHIZANTHES. Spathe 3—4-flowered; corolla spreading; corona semi-tripartite, spreading, much shorter than the segments; scape compressed; leaves flat.

XII. GANYMEDES. (See our *fig. 3* in Plate 39.) Segments of corolla semi-reflexed; corona cup-shaped, much shorter than the segments.

XIII. PHYLOGYNE. (See our *fig. 4* in Plate 39.) Spathe 2—4-flowered; anthers contiguous, length of tube; corona usually shorter than the segments.

XIV. HERMIONE. (See our *figs. 1 and 2* in Plate 39.) Spathe 3—20-flowered; corolla stellately spreading; corona small; stamens erect, unequal; anthers small. This is a very interesting section, from the beauty of the flowers; the Tazetta, or French Daffodil, belongs to it.

XV. NARCISSUS. (See our *fig. 5* in Plate 39.) Spathe 1—3-flowered; corona small; stamens erect, unequal; corolla spreading. The Poet's Narcisse is the type of this division.

XVI. CHLORASTER. (See our *fig. 8* in Plate 39.) Spathe 1—3-flowered; corolla stellately spreading; corona small, entire, or 6-parted, incurved; stamens inclosed, unequal.

Mr. Herbert rejects all the distinctions laid down by Mr. Haworth; and though he makes six genera, for which he adopts some of Mr. Haworth's names, he affixes different characters to them. Dr. Lindley, in the article on Narcissus in the Penny Cyclopædia, thinks that only the genus *Corbularia* is sufficiently distinct to stand. Amid these conflicting opinions I have thought it best to preserve the old name of Narcissus for all the kinds; dividing the genus into sections according to Mr. Herbert's genera, and giving all the different names under the head of synonymes. All the Narcissi are natives of Europe, and many of them are found wild in England. They are all quite hardy; and when once planted should not be removed, except when absolutely necessary, as they will not flower well for a year or two after being disturbed, till they have thoroughly re-established themselves in the soil. This rule, however, does not apply to the Jonquils, which may be removed every year. The soil should be rich and loamy. The tenderer kinds may be planted in a dry sandy soil, and covered with leaves during winter; but the most tender should not be taken up (unless, as before observed, it be a kind of Jonquil); as when the bulbs are planted singly, the wet earth lying close upon them is apt to make them rot; but when they are left so as to form "a tuft, the wet drains through the interstices between the bulbs. When they are taken up, they should be planted again as soon as possible." (*Herb. Amaryll.* p. 296.) When the bulbs are taken up, they ought to be kept out of the ground as short a time as possible.

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## SECTION I.—CORBULARIA, OR HOOP-PETTICOAT.

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| SECT. CHARACTER.—Style and filaments declined, recurved; anthers short, attached at the middle, incumbent, versatile; filaments successively matured; the sepaline adhering to the tube near the base, the | petaline inserted at the base; tube funnel-shaped; cup large, funnel-shaped (longer than the tube); limb little conspicuous; segments slender. <i>W. Herb.</i> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|

DESCRIPTION, &c.—This division includes all the elegant flowers known in gardens by the popular name of the Hoop-petticoat; this name alluding to the shape of the corona or cup, this being much longer than the segments of the limb, and being distended, as though drawn over a hoop. It is rather singular that even so early as the time of Parkinson (1629) there were as many difficulties about naming daffodils as there are at present. As it

is rather curious to see what opinions there were on this subject above two hundred years ago, I shall quote part of Parkinson's introduction to his article on the Daffodil; premising that the *Corbularia* or Hoop-petticoat belongs to what he calls the *Pseudo-narcissus*.

"There hath beene great confusion among many of our moderne writers of plants, in not distinguishing the manifold varieties of Daffodils; for every one almost, without consideration of kinde or forme, or other speciall note, giveth names so diversly one from another, that if any one shall receive from several places the catalogues of their names (as I have had many) as they set them down and compare one catalogue with the other, he shall scarce have three names in a dozen to agree together, one calling that by one name which another calleth by another, that very few can tell what they mean. And this their confusion in not distinguishing the name of *Narcissus* from *Pseudo-narcissus*, is of all others in this kind the greatest and grossest error." He then proceeds to detail the "Classis and formes" into which he divides the daffodils, telling us that he does so to avoid "that gulfes whereof I complaine so manie have been endrenched."

The name of *Corbularia* signifies "little basket." The plants comprised in this division are all of dwarf stature and delicate growth, and they are all hardy.

#### 1.—NARCISSUS CANTABRICUS, *Clus.* THE CAMBRIDGE NARCISSUS.

SYNONYMES.—*Corbularia albicans*, [*Haw.*; *Corbularia cantabrica*, *W. Herb.*; *Trompette Marin*; *Pseudo-narcissus juncifolius flore-albo*, *Park.*; *Pseudo-narcissus flore-albo*, *Gerard.*

ENGRAVING.—Fig. 5, p. 34 of Gerard's Herbal.

SPECIFIC CHARACTER.—Flower white or whitish; brims a little uneven. *W. Herb.*

DESCRIPTION, &c.—This plant is described by Parkinson as having two or three long and very green leaves, very like those of the common Hoop-petticoat *Narcissus*, but not quite so round; "among which riseth up a short stalke, seldom half a foot high, bearing at the top, out of a small shiny husk, one small white flower, sometime declining to a pale colour, having six small and short leaves, standing about the middle of the trunk, which is long, and much wider at the top than at the bottom: the small outer leaves or wings are a little tending to green, and the trunk (as I said) is white or whitish, having the brims a little uneven. The seed is small, black, and round." (*Park. Parad.* p. 106.) The description in Gerard is shorter, but it agrees, as well as the figure, with the above. The species flowers in March. It is a native of Biscay, and is found in great abundance among the mountain passes of the Pyrenees. It was introduced before 1596, and was common in British gardens for more than a century; but it is now lost. It is, however, well deserving of re-introduction, as it is the only one of the Hoop-petticoat division that has white or whitish flowers. It appears to derive its name of the Cambridge *Narcissus* from its having been cultivated on a large scale, about 1588, by "Master Nicolas Belson, sometime of King's College in Cambridge," whom Gerard calls "a man learned, and a diligent searcher of nature;" and who fancied that the distilled water of these Daffodils would cure the palsy, if the patient were "bathed and rubbed with the sayd liquor by the fire." This species is rather more tender than the common Daffodils; and this is probably the reason it has been lost.

#### 2.—NARCISSUS BULBOCODIUM, *Lin.* THE COMMON HOOP-PETTICOAT NARCISSUS.

SYNONYMES.—*Corbularia Bulbocodium*, *W. Herb.*; *C. lobulata*, *Haw.*

SPECIFIC CHARACTER.—Margin waved and indented. Flowers appearing in April. *W. Herb.*

VARIETY.—N. B. 2 *serotina*; *Corbularia serotina*, *Haw., Brit. Flow. Gard.* 2nd ser. t. 164; C. B. 2 *serotina*, *W. Herb.*; N. *Bulbocodium*, *Bot. Mag.* t. 88; N. *turgidus*, *Salis.*; *Pseudo-narcissus serotinus*, *Park.* t. 107, fig. 8. Cup undulately-lobed, *Haw.*

DESCRIPTION, &c.—The Common Hoop-petticoat *Narcissus* is so common in gardens as scarcely to need description. It is an elegant plant, with very slender leaves and bright yellow flowers. Like the former plant,



it is a native of the Pyrenees ; but it is also found wild in Portugal. It is the hardiest of all the kinds of this section, and it grows freely in the gardens near London, without taking up for several years. It was, however, killed in many places by the severe winter of 1837-8. The exact year of its introduction is not known, but it was before 1620, and after 1597, as it is not mentioned by Gerard. It should be grown in a light loamy soil, and sheltered situation ; and it succeeds and looks very well in pots. Its flowers do not appear till May, being a month or six weeks after those of most of the other kinds of Narcissus. Parkinson says of these kinds of Narcissus, "The French and Low Country men do call them *Trompettes*, that is, trumpets, from the form of the trunk."

### 3.—NARCISSUS CONSPICUUS, *D. Don*. THE CONSPICUOUS NARCISSUS.

SYNONYMES.—*Corbularia conspicua*, *Haw.* ; *C. c.* var. *princeps*, *W. Herb.* ; Showy Hoop-petticoat Narcissus ; *Pseudo-narcissus juncifolius lutea*, *Park.* ; *Narcissus montanus juncifolius flore-fimbriata*, *Lobel.*

ENGRAVINGS.—*Park. Parad.* p. 107, *fig. 6* ; *Swt. Brit. Flow. Gard.* 2nd. ser. t. 326 ; and our *fig. 3*, in Plate 38.

SPECIFIC CHARACTER.—Cup plicate, margin repand ; style longer ; leaves erect. *W. Herb.*

VARIETY.—*N. c.* 2 minor ; *C. c.* var. *minor*. *W. Herb.*

DESCRIPTION, &c.—This species is distinguished from the common Hoop-petticoat Narcissus by its erect leaves, which are generally shorter than the flower-stalk ; its plaited and crenulated cup ; and its projecting stigma. It is a native of the Pyrenees, whence it was introduced before 1560. It should be grown in light loamy soil ; and it should be slightly protected during severe frosts. It flowers in May.

### 4.—NARCISSUS TENUIFOLIUS, *Salis.* THE SLENDER-LEAVED NARCISSUS.

SYNONYMES.—*Corbularia tenuifolia*, *Haw.* ; *C. t.* var. *princeps*, *W. Herb.* ; Narrow-leaved bastard Daffodil, with the clipt trunk, *Park.*

ENGRAVING.—*Swt. Brit. Flow. Gard.* t. 114.

VARIETY.—*N. t.* minor ; *C. t.* minor, *W. Herb.*

SPECIFIC CHARACTER.—Leaves very narrow ; cup 6-lobed ; limb shorter, and style longer than the cup. *W. Herb.*

DESCRIPTION, &c.—The leaves of this plant are very narrow and very long, and the bulb is very small ; but the chief mark of distinction is in the cup of the flower, which is lobed, and in this differs materially from all the other species. It flowers in April. Like the other species, it is a native of the Pyrenees, whence it appears to have been introduced about the same time as *N. Bulbocodium*, as it is mentioned by Parkinson. It is rather tender, and is generally cultivated in pots ; as, though it will grow in the open air in mild seasons, an unfavourable winter will destroy it. The variety only differs in being smaller in all its parts. Mr. Herbert mentions another species, which he calls *Corbularia obesa*, which is a native of Tangiers, and flowers in March or April. The cup of this species is entire and inflated ; and the leaves are recumbent on the ground.

## SECTION II.—AJAX, OR DAFFODIL.

SECT. CHARACTER.—Style thick, straight, subulate, three-furrowed, tripartite ; filaments straight, clustering round the style, adhering to the lower part of the tube, growing into the back of the anther below the middle ; anthers erect, straight (the point rarely a little curved), linear, margins of the lobes bent back, meeting behind, and enveloping

the filaments ; tube funnel-shaped ; crown nearly cylindrical, longer than the tube, equal to or longer than the limb, which is conspicuous ; capsule sloping ; seed roundish, wrinkled, with a prominent wrinkled raphe and chalaza. *W. Herb.*

DESCRIPTION, &c.—This section comprises all the true Daffodils, and the genus *Ajax* of Mr. Herbert, Mr. Salisbury, and Mr. Haworth. All these plants are well known, and hardy, with showy flowers ; and they will all grow without any particular care being bestowed on their cultivation.







5.—NARCISSUS MINOR, *Lin.* THE LESSER YELLOW DAFFODIL.

SYNONYMES.—*Ajax minor*, var. *princeps*, *W. Herb.*; *A. cuneifolius*, *Haw.*; *Pseudo-narcissus Hispanicus luteus minimus*, *Park.*

SPECIFIC CHARACTER.—Scape internally filled up near to the top; filaments adnate close to the base unequally; style shorter than the cup; limb semi-patent, pale yellow; segments not imbricating; cup 6-lobed, crenate at the edge; leaves glaucous. *W. Herb.*

VARIETIES.—*N. m.* 2 *humilior*; *N. minor*, *Bot. Mag.* t. 6; *Ajax minor*, 2 *humilior*, *W. Herb.*; *A. minimus*, *Haw.* Leaves closer to the ground, but before expansion touching it; segments imbricating, *W. Herb.*

*N. m.* 3 *cuneifolius*; *Ajax minor*, 3 *cuneifolius*, *Salis.* Segments

of the limb not imbricating. Mr. Haworth gives two varieties of this, one with large and erect leaves, and the other with narrow leaves.

*N. m.* 4 *erectior*; *Ajax minor erectior*, *W. Herb.*; *Ajax minor*, *Haw.* Mr. Haworth gives two varieties of this, differing like the others in the leaves.

*N. m.* 5 *nanus*; *Ajax minor*, 5 *nanus*, *W. Herb.*; *Ajax nanus*, *Haw.*; limb sulphureous, semi-patent, and half as long again as the cup, which is yellow, lobed, and crenate. Mr. Haworth mentions a narrow-leaved variety with a limb quite patent, and a double variety.

*N. m.* 6 *pumilus*; *Ajax minor pumilus*, *W. Herb.*, a very diminutive variety.

DESCRIPTION, &c.—Pretty little plants, with small bright yellow flowers, which appear in March. They are all quite hardy, and will grow in any common garden-soil. The species is a native of the Pyrenees and different parts of Spain; and it was introduced about the same time as the others. It is mentioned by Parkinson, as well as two or three of the varieties.

6.—NARCISSUS PSEUDO-NARCISSUS, *Lin.* THE COMMON DAFFODIL.

SYNONYMES.—*Ajax Pseudo-narcissus*, *Haw.*; *A. P.* 1 *ryticarpus*, *W. Herb.*; *Pseudo-narcissus*, *Anglicus vulgaris*, *Park.*; the English Daffodil or Daffo-down-dilly, *Gerard.*

ENGRAVINGS.—*Eng. Bot.* t. 17; 2nd ed. v. iii. t. 468.

SPECIFIC CHARACTER.—Cup the length of the limb; scape two-edged, striated; style shorter than the cup; filaments adnate, close to the base of the tube; cup sometimes with six lobes, cleft almost regularly, sometimes with none; limb paler than the cup. *W. Herb.*

VARIETIES.—This species varies very much when raised from seed; the variations consisting chiefly in the shades of colour between the cup and the limb, and in the greater or less degree of serrature of the cup; seedlings are also frequently found more or less double. Mr. Herbert states, that he had been "informed by a gentleman, who has

paid much attention to the wild Bulbs of Italy, that *N. Pseudo-narcissus*, in the vicinity of Naples, is oftener found in a wild state with double, than with single flowers." "Such plants," Mr. Herbert adds, "must, I think, be vestiges of ancient horticulture. I am also told that there are many variations of the plant, peculiar to different localities in Italy." The following varieties have been deemed by Mr. Herbert sufficiently distinct to receive names.

*N. P.* 3 *festalis*, *Salis.*; smaller than the species; the germen wrinkled when immature.

*N. P.* 4 *nobilis*, *Haw.*; limb spreading; cup large and irregularly lobed; scent unpleasant.

*N. P.* 5 *Telamonius*, *Haw.*; flowers unusually long.

DESCRIPTION, &c.—It is certainly of little use to attempt to describe this flower, for every one knows

—the Daffodils

That come before the swallow dares, and take  
The winds of March with beauty.

The bell-shaped part is called the cup, and the divisions, which look like a coloured calyx, the limb; and it is one of the characteristics of this division that the cup is much larger than the limb. The flower-stalk, or scape, is square and succulent, and hollow through nearly all its length, and the leaves are long and flat. The plant will grow in any soil, not too light and dry; and it is often found wild in Britain, though it is somewhat doubtful whether it be really a native, or only

"A garden-flower grown wild."

It is very common in the woods of Italy, where, as before observed, it is often found with double flowers, wild. It is always found in a loamy soil; and when grown in gardens, it flowers best, when it is left for several years without removing. It should be planted in autumn.

7.—NARCISSUS BICOLOR, *Lin.* THE TWO-COLOURED DAFFODIL.

SYNONYMES.—*Ajax lorifolius*, *Haw.*; *A. bicolor*, var., *lorifolius*, *W. Herb.*; *N. Pseudo-narcissus*, var. *β*, *Red.*; White-and-yellow Daffodil.

ENGRAVING.—*Bot. Mag.* t. 1187.

SPECIFIC CHARACTER.—Limb very pale, rather shorter than the cup; which is a dark yellow, and imperfectly lobed. Leaves lorate, flat.

VARIETIES.—*N. b.* 2 *breviflos*; *A. l.* 2 *breviflos*, *Haw.*, has the cup very little longer than the limb, and the flowers are very fragrant.

*N. b.* 3 *anceps*; *A. l.* 3 *anceps*, *Haw.*, has a flattened scape, and the cup of the flower decidedly longer than the limb, with an unpleasant smell.

DESCRIPTION, &c.—This species is a native of the south of Europe, particularly of the Passes of the Pyrenees, but it has been long in cultivation in British gardens. The difference of colour between the cup and the limb is very striking; the latter in some seedlings being very nearly white. It is easily distinguished from the common kind by its round stalk; that of *N. Pseudo-narcissus* being flat.

8.—NARCISSUS MOSCHATUS, *Lin.* THE MUSK-SCENTED OR WHITE SPANISH DAFFODIL.

SYNONYMES.—*Ajax moschatus*, *Haw.*; *A. m.* 1 *candidissimus*, *W. Herb.*; *N. m.* 8, *Ker.*

ENGRAVING.—*Bot. Mag.* t. 1300; *Red. Lil.* 3, t. 188.

SPECIFIC CHARACTER.—Segments tortuous, sulphurescent, turning white, equal to the cup, flower small. Style shorter than the cup. *W. Herb.*

VARIETIES.—*N. m.* 2 *tortuosus*; *A. tortuosus*, *Haw.*; *A. m.* 2 *tortuosus*, *W. Herb.*; *N. moschatus*, *Ker, Bot. Mag.* t. 924. Limb shorter than the cup, but broader; not so white as the species.

*N. m.* 3 *cernuus*; *N. cernuus*, *Roth.*; *Ajax m.* 3 *cernuus*, *W. Herb.*; *A. cernuus*, *Haw., Swt. Brit. Flow. Gard.* 2nd ser. t. 101. Flowers drooping. Leaves deeply channelled, frequently double.

*N. m.* 4 *albicans*; *Ajax m.* 4 *albicans*, *W. Herb.*; *A. albicans*, *Haw., Swt. Brit. Flow. Gard.* 2d ser. t. 145, and our *fig. 1*, in Plate 38. The Great Spanish White Daffodil, *Park. Par.* p. 100, t. 101, *fig. 1*. Segments of the limb ovate-lanceolate, somewhat flat, whitish; cup crenate, sulphurescent.

DESCRIPTION, &c.—The shape of these flowers differs very little from that of the common Daffodil, but the colour is very distinct. All the kinds are called Musk Daffodils, but very improperly; as the scent does not in the least resemble musk, but is rather like that of ginger. The different kinds are all found wild on the Pyrenees, but they have been in cultivation in British gardens for many years. Like the other species, it requires a loamy soil, which should be rather rich.

9.—NARCISSUS MAJOR, *Lin.* THE GREAT YELLOW SPANISH DAFFODIL.

SYNONYMES.—*Ajax luteus*, var. *major*, *W. Herb.*; *A. maximus*, *Haw.*

ENGRAVING.—*Bot. Mag.* t. 51.

SPECIFIC CHARACTER.—Perianth all yellow. Filaments adnate, unequally near to the base of the tube. Style shorter than the cup.

VARIETIES.—*N. m.* 2 *propinquus*; *N. m.* *β*, *Bot. Mag.* t. 1301,

*fig. 1*; *Ajax luteus propinquus*, *W. Herb.* Cup straighter than in the species.

*N. m.* 3 *obvallaris*; *N. major*, *Bot. Mag.* t. 1304, *fig. 2*. Margin of the cup less lobed and more recurved than in the species. Limb short.

DESCRIPTION, &c.—This species is the kind frequently called the Great Yellow Spanish Daffodil. The cup is very long and rather deeply lobed, the lobes being broad and not much recurved. The limb is also large and very little recurved. There are several variations of this species, and Mr. Herbert refers to it the *Ajax lobularis* of Mr. Haworth, also called the Scotch Daffodil; *A. rugilobus* and *A. cambricus*. The species is found on the Pyrenees, and on several hills in France.

10.—NARCISSUS SABINI, *Lindl.* MR. SABINE'S DAFFODIL.

SYNONYMES.—*Diomedes major*, *Haw.*; *Ajax Sabinianus*, *W. Herb.*

ENGRAVINGS.—*Bot. Reg.* t. 762; and our *fig. 2*, in Plate 38.

SPECIFIC CHARACTER.—Cup plicate, shorter than the limb; segments of the limb patent, imbricated.

DESCRIPTION, &c.—A very distinct species, from the cup being fluted, and not at all curved back at the

margin. The cup is darker than the limb; and the leaves are broad and very few. The native country of this plant is unknown; but it was found in 1818 in the Botanic Garden, Oxford, by Mr. Baxter, who sent it to Mr. Sabine. It is very seldom seen in collections. Some botanists have supposed it a garden hybrid, but it is found to come true from seed.

### SECTION III.—GANYMEDES OR RUSH DAFFODIL.

SECT. CHARACTER.—Style straight, slender; filaments adhering to the upper part of the tube with greater diversity than *Queltia*; sepaline stamens more prolonged; limb decidedly reflex; cup equalling or

shorter than the limb; tube slender, drooping; capsule erect; seed oblong, with elevated raphe and chalaza. *W. Herb.*

DESCRIPTION, &c.—These are delicate plants with small bulbs, and slender stem and leaves, but with from two to seven flowers. The flower is generally drooping, with the cup projecting, and the limb turned back. All the species are very elegant.

#### 11.—NARCISSUS TRIANDRUS, *Lin.* THE THREE-ANTHERED RUSH DAFFODIL.

SYNONYMES.—*Illus cernuus*, *Haw.*; *Ganymedes cernuus*, *W. Herb.*; *N. calathinus*, *Red.*; *N. juncifolius*, *Clus.*; *Turning Jonquil*, *Park.*

ENGRAVINGS.—*Bot. Mag.* t. 48; ? *Redouté Liliacées*, t. 410; and our *fig.* 6, in Plate 38.

SPECIFIC CHARACTER.—Tube and limb equal, and much longer than the cup; limb reflexed. Spathe many-flowered. Flowers drooping, the three alternate stamens much shorter than the others, and with the

style concealed by the cup. Leaves narrow, rush-like, and somewhat twisted.

VARIETY.—*N. t.* 2 *luteus*, *Ker, Bot. Mag.* t. 1262; *N. calathinus*, var. *Red.* t. 177; *Queltia capax*, *Salis.*; *Assaracus capax*, *Haw.*; *Ganymedes pulchellus*, *Swt.*; *G. capax*, *W. Herb.* This variety only differs in the colour of the flowers; the cup being whiter than the limb.

DESCRIPTION, &c.—There are perhaps few plants that vary more in the flowers than this, as they are often very different on the same stalk. They always, however, agree in three of the stamens being so much shorter than the others as not to be perceptible without a very close examination. The limb of the flower is always reflexed, and the cup projecting; but this is a characteristic of the section or genus *Ganymedes*, which is named from the cup-bearer of Jove, from its constantly-projecting cup. Like all the plants in this division, this species is very delicate, and requires a warm and sheltered situation, and a light, rich soil: it is a native of Portugal and the South of France. The species differs from the variety in having a twisted stem, whence Parkinson's name of the *Turning Jonquil*. It may also be observed, that all the species called *Jonquil*, of which this once was one, are distinguished by their slender, rush-like leaves, whence indeed they take their name; as it is derived from the Latin word *juncifolius*, literally rush-leaved. The flower-stalk or scape in all these species has two or three flowers, and the flowers are always drooping.

#### 12.—NARCISSUS CONCOLOR, *Swt.* THE SELF-COLOURED RUSH DAFFODIL.

SYNONYME.—*Ganymedes concolor*, *Haw.*

ENGRAVINGS.—*Swt. Brit. Flow. Gard.*, 2d ser. t. 113; and our *fig.* 3, in Plate 39.

SPECIFIC CHARACTER.—Limb nearly equal in length to the tube, and

reflexed; cup much shorter. Spathe many-flowered, flowers drooping.

The three alternate stamens a little shorter than the others; style projecting beyond the cup. Leaves not twisted, but deeply channelled, and folded together.

DESCRIPTION, &c.—This very handsome species differs from the preceding one, in the colour of the cup and the limb being the same, in the style projecting, in the three smaller stamens not being quite hidden by the cup,



and in neither the leaves nor stalk being twisted. This last distinction is, however, not always distinctly marked; as the leaves are sometimes twisted slightly. It is a native of the valleys of the Pyrenees; and it should be grown in a rich loamy soil, and sheltered situation.

### 13.—NARCISSUS NUTANS, *Haw.* THE NAKED RUSH DAFFODIL.

SYNONYMES.—*N. trilobus*, *Bot. Mag.*; *Ganymedes nutans*, *W. Herb.* | longer than the tube, and only partially reflexed. Style projecting far beyond the cup. Leaves linear, half round.

SPECIFIC CHARACTER.—Cup much shorter than the limb. Limb

DESCRIPTION, &c.—This species may be considered as intermediate between the reflexed Rush Daffodils and the Jonquils; the cup being longer than the latter, and yet not so prominent as in *Narcissus triandrus* and its near allies. Mr. Herbert, however, considers this species, like the preceding ones, to belong to *Ganymedes*. It is a native of the South, and, like all the many-flowered *Narcissi*, it blooms later in the season than the common Daffodils.

There are some other species belonging to this division, but they are rarely seen in British gardens.

## SECTION IV.—QUELTIA OR MOCK NARCISSUS.

SECT. CHARACTER.—Style straight, more or less attenuated; filaments adhering alternately to the upper part of the tube, straight, affixed to the back of the anthers below the middle; anthers linear, erect, recurved, with the margins of the cells meeting behind, above the attach-

ment, but not enveloping the filaments (tube sub-cylindrical, more or less widened, crown shorter than the limb), shorter than the tube, or nearly equal. *W. Herb.*

### 14.—NARCISSUS MACLEAII, *Lindl.* MR. MACLEAY'S NARCISSUS.

SYNONYMES.—*Queltia Macleana*, *W. Herb.*; *Diomedes minor*, *Haw.*; Small Early White Daffodil, *Park.*

ENGRAVING.—*Bot. Mag.* t. 2588.

SPECIFIC CHARACTER. — Scape 1—2-flowered; cup cylindrically truncate, fluted, and shorter than the limb. Leaves broad, green.

DESCRIPTION, &c.—This species is very distinct, from the breadth and greenness of the leaf, which in most of the *Narcissi* is glaucous. The cup is fluted; and of a deep yellow, while the limb is sulphur-coloured. The fluted cup resembles that of *N. Sabini*, with which it was classed in the genus *Diomedes* by Mr. Haworth.

### 15.—NARCISSUS MONTANUS, *Park.* THE WHITE MOUNTAIN DAFFODIL.

SYNONYMES.—*Queltia poculigera*, *Salis.*; *2. montana*, *W. Herb.*; *Tros poculiformis*, *Haw.*

ENGRAVINGS.—*Bot. Reg.* t. 123; and our *fig. 5*, in Plate 38.

SPECIFIC CHARACTER.—Scape 1—2-flowered; limb about equal to the tube, cup a little shorter. Limb partly recurved; cup slightly

plaited. Leaves broad, flat, glaucous, and lorately elongated.

VARIETY.—*N. m.* 2 *galanthifolius*; *Q. m.* 2 *galanthifolia*, *W. Herb.*; *Tros galanthifolius*, *Haw.* The limb is more exposed and twisted, and the cup more plaited.

DESCRIPTION, &c.—This species is one of the most beautiful of all the *Narcissi*, from the elegant form of its pure white flower, and the graceful manner in which it hangs. It is quite hardy, and yet, though it has been introduced since the time of Parkinson (1629), it is rarely seen in British gardens. The reason seems to be, want of care in its culture, as it is a native of the valleys of the Pyrenees, and it requires a deep, moist soil, like that found in the recesses among the rocks.



1. *Narcissus monticola* 2. *Narcissus truncatus* 3. *Narcissus bulbosus*  
 4. *Narcissus albuliflorus* 5. *Narcissus pseudonarcissus* 6. *Narcissus multiflorus*  
 (Narcissus)





16.—NARCISSUS INCOMPARABILIS, *Curt.* THE NONSUCH DAFFODIL, OR BUTTER AND EGGS.

SYNONYMES.—*Queltia foetida*, *W. Herb.*; *Q. incomparabilis*, *Haw.*

ENGRAVINGS.—*Bot. Mag.* t. 121; and our *fig.* 4 in Plate 38.

SPECIFIC CHARACTER.—Cup much shorter than the limb, strongly plaited, six-lobed; limb patent, slightly tortuous. Leaves succulent, and rather glaucous.

VARIETIES.—*N. i.* 2 *aurantius*, *G. Don*; *N. Gouani* *Red.* t. 158. *Q. f.* 2 *aurantia*, *W. Herb.* Cup deep orange. Butter and eggs is the double-flowered kind of this variety.

*N. i.* 3 *sempartitus*; *Queltia semipartita*, *Haw.*; *Q. f.* 3 *sempartita*,

*W. Herb.* "A marked variety, with a paler tint of yellow, the cup more patent, regularly and deeply lobed." *Herb. Amaryll.*

*N. i.* 4 *concolor*; *Queltia concolor*, *Salis.*; *Q. f.* 4 *concolor*, *W. Herb.* In this variety the cup is of the same colour as the limb.

*N. i.* 5 *griseas*; *Narcissus Queltia*, *G. Don*; *Queltia alba*, *Haw.*; *Q. f.* 5 *grisea*, *W. Herb.* Parkinson describes this species as being of a glistening whitish-grey, with a yellow cup. The double-flowered orange phoenix belongs to this variety.

DESCRIPTION, &c.—All these plants have a very unpleasant smell, whence Mr. Herbert proposes to call the species *Queltia foetida*; all the varieties are apt to become double, but as they are rather capricious in this respect, varying very much, the double-flowered kinds have not been kept distinct. All the kinds are quite hardy, though natives of Spain and Portugal; and they have been common in British gardens for more than two centuries. There are many other sub-varieties, which differ in shades of colour, and in being more or less double; but they are all perfectly hardy, and will grow in any common garden soil.

## 17.—NARCISSUS SCHIZANTHES. THE CUT-FLOWERED NARCISSUS.

SYNONYMES.—*N. orientalis* *B. Lin.*; *N. incomparabilis*, *Ker.*; *Hermione ambigena*, *Salis.*; *Schizanthos orientalis*, *Haw.*; *Queltia orientalis*, *W. Herb.*

ENGRAVING.—*Bot. Mag.* t. 948.

SPECIFIC CHARACTER.—Cup spreading, and deeply cut; segments of the limb long, pointed, and spreading. Leaf keeled.

DESCRIPTION, &c.—This species is very distinct; from the cup, instead of being entire, being so deeply cut as to be nearly divided into four separate parts. The flowers are large, and each scape or flower-stalk bears three or more flowers. There appears to have been great doubt among botanists where to place it, as it has been successively called a variety of *Narcissus orientalis*, one of *N. incomparabilis*, a kind of *Hermione*, and a kind of *Queltia*; while Mr. Haworth made it into a distinct genus under the name of *Schizanthos*, which signifies a cut flower.

18.—NARCISSUS ODORUS, *Lin.* THE SWEET-SCENTED NARCISSUS, OR GREAT JONQUIL.

SYNONYMES.—*Philogyne Campernilli*, *Haw.*; *Queltia odora campernelliana*, *W. H.*

SPECIFIC CHARACTER.—Flowers uniformly of a bright yellow. Cup chalice-shaped. Tube slender. Seeds usually in three rows, but sometimes irregular. Leaves deep green.

VARIETY.—*N. o.* 2 *calathinus*; *N. calathinus*, *Lin.*, *Bot. Mag.* t. 934; and our *fig.* 4, in Plate 39; *Philogyne odora*, *Haw.*;

*Queltia odora calathina*, *W. Herb.* The segments of the limb are narrower, and more recurved; and the ovary larger in proportion to the tube. This variety, when double, is often called Queen Anne's Jonquil.

There are several other varieties, which I have not described because they are very rare.

DESCRIPTION, &c.—It would be difficult to say why Linnæus named the species "odorus," as it is not more sweet-scented than many other kinds of *Narcissus*. The variety he named *Narcissus Calathinus*, from its cup resembling a chalice. The species has generally two or more flowers on a stalk, but the variety is, in most cases, produced singly. Both kinds are quite hardy, and as they will grow in any soil or situation, they are common in gardens.

19.—NARCISSUS JONQUILLA, *Lin.* THE JONQUIL.

SYNONYMES.—Jonquilla major, *Haw.*; Queltia Jonquilla, *W. Herb.*; Narcissus juncifolius, *Park.*; the Junquilla, or common Rush Daffodil.

ENGRAVINGS.—Bot. Mag. t. 15; and our *fig.* 7, in Plate 38.

SPECIFIC CHARACTER.—Leaves narrow and rounded, channelled on the surface. Tube slender, longer than the limb; cup very short. Flowers all yellow, and very fragrant.

DESCRIPTION, &c.—The fragrance and hardiness of the Jonquil, combined with its light and elegant form, and profusion of flowers, have made it a garden favourite in every country where it is known. It is a native of Spain, whence it was imported in the reign of Elizabeth; and it has been thus cultivated in British gardens for nearly three centuries. It is quite hardy, and will grow freely in any common garden soil. There are several varieties, but they only differ in size, or slightly in colour.

## SECTION V.—NARCISSUS OR TRUE NARCISSE.

SECT. CHARACTER.—Style straight, slender; filaments straight, free at the point only, the sepaline adnate to the mouth of the tube, the petaline just below; anthers short, with the summit recurved, the

margins not meeting behind; tube slender, cylindrical, widened at the mouth; cup short, spread. *W. Herb.*

20.—NARCISSUS GRACILIS, *Sab.* THE SLENDER NARCISSUS.

SYNONYMES.—Helena gracilis, *Haw.*; *N. lætus*, *Red.*; graceful Jonquil.

ENGRAVINGS.—Bot. Reg. t. 816; Red. Lil. t. 428; Swt. Brit. Flow. Gard. 2d Ser. t. 136; and our *fig.* 8, in Plate 38.

SPECIFIC CHARACTER.—Leaves narrow, green; spathe 1—3-flowered. Perianth pale yellow; style equal to the tube; seeds somewhat oblong. *W. Herb.*

VARIETIES.—*N. g.* 2 planicorona, *W. Herb.*; leaves narrow; tube longer than the limb; cup nearly flat; margin even.

*N. g.* 3 tenuior, *W. Herb.*; *N. tenuior*, *Curt.*, Bot. Mag. t. 379. Cup bright orange, margin waved; segments of the limb obovate; tube very slender.

DESCRIPTION, &c.—The species has so long been common in British gardens, where it is considered a kind of Jonquil, that its origin is lost; the variety was, however, introduced from Italy, in 1794. Both are quite hardy, and will grow in any common garden soil.

21.—NARCISSUS BIFLORUS, *Curt.* THE TWO-FLOWERED NARCISSUS, OR PRIMROSE-PEERLESS.

SYNONYME.—Pale Daffodil.

ENGRAVINGS.—Bot. Mag. t. 197.

SPECIFIC CHARACTER.—Leaves a little glaucous, 1—4-flowered;

limb creamy white; cup yellow. *W. Herb.*

VARIETIES.—*N. b.* 2 triflorus, *W. Herb.* Generally with three or four rather smaller flowers. Imported from the south of France.

DESCRIPTION, &c.—The species, which is often confounded with the Poet's Narcisse, never seeds in our gardens, the anthers containing no pollen, and the ovaries no ovules. Its origin is not known, but as it can be traced in British gardens for more than three centuries, if a hybrid, it was probably raised accidentally. It is, of course, always propagated by offsets. The three-flowered French variety, on the contrary, seeds freely. Both kinds are quite hardy, and will grow freely in any soil or situation. It is often found wild both in England and Ireland; but always in situations which prove that it is not a true native. It is easily distinguished from the Poet's Narcissus, to which it is nearly allied, by the flower-scape generally bearing two and frequently three flowers, and by the rim of the cup being white, while that of the Poet's Narcissus is of a dark red or purple. This

species also possesses, to a greater degree than any other, the peculiar fragrance which has given the name to the genus ; as *Narcissus* is derived from a Greek word, signifying Stupor, and the scent from these flowers in a close room, has been found to produce headache and giddiness.

## 22.—NARCISSUS POETICUS, *Lin.* THE POET'S NARCISSUS.

ENGRAVING.—*Bot. Mag.* t. 193 ; and our *fig.* 5, in Plate 39.

SPECIFIC CHARACTER.—Leaves glaucous ; flowers solitary, rarely, if ever, two ; limb pure white, unless a small yellow mark at the base of the segments ; cup yellow, margined with red or deep orange ; seeds rounder than those of *Gracilis*. *W. Herb.*

VARIETIES.—These are so numerous, that I shall not attempt to give more than a selection.

*N. p. angustifolius*, *W. Herb.* Leaves narrow ; flowers small.

This is the kind figured in *Bot. Mag.* t. 193.

*N. p. majalis*, *W. Herb.* ; *N. poeticus*, *Eng. Bot.* t. 275 ; 2d ed.

t. 469. Spathe generally 1-flowered. Flowers large, appearing in May.

*N. p. recurvus*, *W. Herb.* ; *N. recurvus*, *Haw.* Leaves very broad, with the points always bent back ; flowers very large.

*N. p. patellaris*, *W. Herb.* ; *N. patellaris*, *Haw.* Leaves broad ; alternate segments of the perianth more reflexed than the others ; flowers very large and showy.

*N. p. stellaris*, *W. Herb.* ; *N. stellaris*, *Haw.* ; *Swt. Brit. Flow. Gard.* 2d ser. 132. Segments of the limb narrow, and distinct at the base ; less ornamental than the other species.

DESCRIPTION, &c.—All the species and varieties of the Poet's *Narcissus*, are easily known from all the other kinds of *Narcissus*, by the deep purple ring in the centre of the colour round the margin of the cup. This is the species into which Ovid tells us *Narcissus* was transformed ; though it appears that the vain youth took his name from the flower, instead of giving it ; as the *Narcissus* is mentioned, by Theophrastus, as common in Greece, and as used in medicine to procure ease from pain. The Poet's *Narcissus* is found wild both in Greece and Italy ; and on this account, it is supposed to be the species alluded to, by both Greek and Roman writers.

It has been already observed, that all the kinds of *Narcissi* should be grown in deep rich loam ; but this kind of soil is even more necessary to the Poet's *Narcissus*, than to any other species ; as, when in very poor, or very dry soil, the flowers will not only be small, but they are liable to be attacked by a very remarkable disease, which is described by Mr. Haworth in Sweet's British Flower Garden, under *Narcissus recurvus*. It is well known that the flower of the *Narcissus*, when in the bud, is not folded up in a green calyx like some other plants, but in a brown withered-looking membrane, called a spathe, which bursts open when the flowers expand. Now the flowers attacked by this disease, instead of opening, appear to be imprisoned in the spathe, in which, when about half-grown, they wither and die ; while the unopened spathe appears distended with gas, engendered by the decaying flower. If the spathe, when in this inflated state, be pressed between the thumb and finger, it will give out the imprisoned gas, "discovering the discoloured and only partially developed flower, as if it had been scalded by the heat of the sun's rays. This distemper the gardeners have a name for, and say such flowers are blind." The cause of this disease does not appear to be exactly understood, and no cure for it has been yet devised ; but it is well ascertained that it never occurs either in moist soils or in moist seasons. I think it is Keats who says of the *Narcissus*, alluding to its flourishing most near water—

What first inspired the bard of old to sing,  
*Narcissus* pining o'er the untainted spring ?  
 'Twas in some lovely ramble he had found  
 A glassy pool with boughs all woven round ;  
 And on its bank a lonely flower he spied,  
 Drooping and sad, amid the summer's pride.



## SECTION VI.—HERMIONE, OR CLUSTERED NARCISSUS.

SECT. CHARACTER.—Style straight; slender filaments conniving, with a short curved point, alternately inserted; the sepaline at the mouth of the tube decurrent, scarcely partible from it, attached to the

middle of the anthers; anthers after inversion acute-oval, incumbent, versatile. Capsule erect; tube slender, cylindrical, enlarged at the mouth; cup shorter than the tube or limb. *W. Herb.*

23.—NARCISSUS BIFRONS, *Ker.* THE TWO-FACED, OR JONQUIL-SCENTED NARCISSUS.

SYNONYMES.—*Hermione bifrons*, *Haw.*; *N. longiflorus*, *Willd.*

ENGRAVING.—*Bot. Mag.* t. 1186.

SPECIFIC CHARACTER.—Leaves a deep glossy green; perianth yellow; cup more or less 6-lobed, shallow, patent; style just exceeding. *W. Herb.*

VARIETIES.—*N. b.* 2 *primulinus*, *H. b.* 2 *primulina*, *W. Herb.*;

*N. b.* *bifrons*, *Ker. Bot. Mag.* t. 1299; *N. compressa*  $\beta$ , *Haw. in Lin. Trans.* *Hermione primulina*, *Haw. Succ.* The segments of the limb are broader and shorter, and lap over each other, instead of being distinct.

*N. b.* 3 *compressa*, *H. b.* 2 *compressa*, *W. Herb.*; *N. compressus*, *Haw.* Cup crenated or 3-lobed, and more erect.

DESCRIPTION, &c.—This species was called *bifrons*, or two-faced, by Mr. Bellenden Ker, because he considered it half-way between *Narcissus odoratus* var. *calathinus* (see our *fig.* 4, in Plate 39) and the common Jonquil (see *fig.* 7, in Plate 38); it having the six-lobed cup of the former, and the distinct segments and delightful fragrance of the latter. It is quite hardy, and blossoms in March or April, about the same time as *N. calathinus*, and earlier than the Jonquil. It was introduced from Holland about 1807; but its native country is unknown. The first variety, *N. b.* 2 *primulinus*, is sometimes called the Cowslip Jonquil, and *N. b.* 3 *compressus*, the Jasmine Jonquil.

24.—NARCISSUS TAZETTA, *Lin.* THE POLYANTHUS NARCISSUS.

SYNONYMES.—*N. flavus*, *Lag.*; *Hermione Tazetta*, *W. Herb.*; *H. cupularis*, *Salis.*; *Soleil d'or*, *Hort.*

SPECIFIC CHARACTER.—Spathe many-flowered; cup rather deep; margin entire. Leaves lorate, obtusely attenuated.

VARIETIES.—These are very numerous, many kinds that have been called species by different botanists, being in fact only different varieties of the Polyanthus Narcissus. The following are some of those which appear most distinct.

*N. t.* 2 *aperticoronatus*; *Hermione aperticorona*, *Haw.*, *Swt. Brit. Flow. Gard.* 2d ser. t. 191. Cup spreading.

*N. t.* 3 *orientalis*; *N. orientalis*  $\gamma$ , *Ker, Bot. Mag.* t. 946; *N. t. bicolor*, *Red.*; *N. citrinus*, *G. Don*; *Hermione Tazetta sexlobata*, *W. Herb.*; and our *fig.* 1, in Plate 39. Segments broad, roundish, overlapping each other. Cup spreading, six-lobed. This variety is known in the bulb catalogues as the Grand Primo Citroniere. It is also sometimes called the Polyanthus Narcissus of the Levant.

*N. t.* 4 *multiflorus*; *N. orientalis*  $\delta$ , *Ker, Bot. Mag.* t. 1026, has all yellow flowers.

*N. t.* 5 *Trewiana*; *N. orientalis*, *Bot. Mag.* t. 940; *N. grandiflorus*, *Haw.*; *Hermione crenularis*, *Salis.*; *H. Trevianus*, *Swt. Brit. Flow. Gard.* 2d ser. t. 118; *H. brevistyla* var. *Trevianus*, *W. Herb.*; *Bazelman major*, *Trew.*; and our *fig.* 2, in Plate 39. The style is much shorter than the stamens, and is seated very low in the cup. The leaves are very broad, and the flowers large.

*N. t.* 6 *tereticaulis*; *N. orientalis*, *Ker, Bot. Mag.* t. 1298; *N. tereticaulis*, *Haw.*; *Hermione tereticaulis*, *Swt. Brit. Flow. Gard.* 2d ser. t. 179; *H. leucoifolia*, *Salis.*; *H. brevistyla*, var. *W. Herb.* Scape roundish, hollow. Leaves linear-lorate, channelled, green. Style about half the length of the stamens, included in the tube. This is the plant called Surpassant, and the French Daffodil, in the bulb catalogues.

*N. t.* 7 *crenulata*; *Hermione brevistyla crenulata*, *W. Herb.*; *Bazelman minor*. Limb white; cup yellow, edged with orange, very wide.

*N. t.* 8 *floribunda*; *Hermione grandiflora*, *Haw.* This is the kind called in the catalogues Grand Monarque, or the Nosegay Narcissus.

Besides these and other botanical varieties, there are a great number of what are called garden varieties, which have been raised by florists from seed, and named by them after celebrated persons, &c.

DESCRIPTION, &c.—The Polyanthus Narcissus is a well-known flower, which is deservedly a favourite, from the ease with which it may be grown in pots, or flowered in water-glasses like the hyacinth. The best bulbs are imported from Holland, where two or three hundred kinds are grown and named. All the kinds are, however, easily distinguished by their numerous flowers and entire cup; and they are all delightfully fragrant. The word *tazetta* signifies a small deep vessel, like a tea-cup.

When flowered in glasses, they will require the same treatment as hyacinths, except that the water need not be changed so often; but when planted in the open ground, it should be in a sheltered situation, (as the flower is

apt to be broken by high winds), and in a rich loamy soil. The bulbs should be put into the ground in September, and they flower best when part of an old hotbed is spread over them in October, and slightly forked in. If the situation is cold, they may be covered with dead leaves during winter, but this is seldom necessary. They should not be taken up oftener than every third year, and they are better when not disturbed even then, unless it should be found that they flower weakly from having too many offsets.

#### 25.—NARCISSUS PAPYRACEUS, *Ker.* THE ITALIAN, OR PAPER-WHITE NARCISSUS.

SYNONYMES.—*Hermione papyracea*, *W. Herb.* ; *Narcissus Tazetta* *albus*, *Red.* ; *N. unicolor*, *Tenore* ; *Roman Narcissus*.

ENGRAVING.—*Bot. Mag.* t. 947.

SPECIFIC CHARACTER.—Spathe many-flowered. Perianth pure white ;

cup short ; stigma shorter than the cup, and equal to the upper filaments. Bulb blackish. Leaves very glaucous.

VARIETY.—*N. p.* 2 *Cypri*, *N. cypri*, *Swt. Brit. Flow. Gard.* 2d ser. t. 92 ; and the double Cyprian Narcissus, *Bot. Mag.* t. 1011.

DESCRIPTION, &c.—This species differs from the common *Polyanthus narcissus*, chiefly in the colour of its flowers, and in its having a flattened two-edged stem. The cup is also much shallower, and it is somewhat scalloped at the margin ; and the bulb is smaller and blacker. It is a native of Italy, and grows in great abundance near Mount Vesuvius. It should be planted in a sheltered situation, as it is very liable to be injured by high winds. The Cyprian narcissus, and the double Roman narcissus, are generally supposed to be varieties of this species. The latter is a very singular flower, the yellow and white being mixed in it, as the yellow and orange are in the well known variety called Butter-and-eggs. These and several other varieties are sometimes included in this species, and sometimes in *N. Tazetta*, the *Polyanthus narcissus*.

#### 26.—NARCISSUS ITALICUS, *Ker.* THE ITALIAN NARCISSUS.

SYNONYME.—*Hermione italica*.

ENGRAVING.—*Bot. Mag.* t. 1188.

SPECIFIC CHARACTER.—Spathe many-flowered. Segments of the

limb pointed ; cup irregularly cleft. Style nearly equal in length to the cup. Leaves green.

DESCRIPTION, &c.—This species, though often confounded with *N. papyraceus*, is yet very distinct in the pointed segments of its flowers, its irregularly cleft cup, and dark-green leaves. This last is a striking mark of distinction, as the leaves of *N. papyraceus* are glaucous, and covered with a whitish bloom. There are many other species belonging to this division ; particularly *N. dubius*, *Willd.*, *Hermione dubia*, *W. Herb., Red. Lil.* t. 423, a French species, which appears to belong to *N. papyraceus* ; and *N. serotinus*, *Desf.*, *Hermione serotina*, *Haw.*, an autumnal-flowering species, found in Barbary and on both shores of the Mediterranean. Another African species is *Narcissus viridiflorus*, *Ker*, *Chloraster fissus*, *Haw.*, *Hermione viridiflora*, *W. Herb.*, and our *fig. 6*, in Plate 39 ; a very remarkable plant found on the Coast of Barbary, and on the Rock of Gibraltar, but which is seldom to be met with in England.

#### SUB-ORDER.—GALANTHEÆ.

ESSENTIAL CHARACTER.—Porandrous ; that is, not having the anthers slit and inverted, but opening partially ; in this instance the pollen is discharged through two small round holes at the summit. Not oper-

culous ; bedded, that is with a glandular spongy covering to the germen, in which the filaments are inserted. Pollen not half the size of the smallest pollen of the *Amaryllidaceæ*. Peduncle curved.

In this sub-order, Mr. Herbert includes the genera *Galanthus*, *Erinosma*, and *Acis*, each of which has a solid flower-scape and whitish seeds ; and *Leucojum*, which has a hollow scape and black shining seeds.

## GENUS XL.

GALANTHUS, *Lin.* THE SNOWDROP.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Bulb ovate; leaves linear-lorate; scape 1-flowered; spathe tubular below; above slit on one side, transparent on the other; germen oblong-ovate, pendulous; segments separate; sepals concave, expanding in the sun; petals much shorter, obovate, emarginate, 2-lobed, having the semblance of large nectariferous

scales; style filiform, tapering to a point; filaments short, equal, inserted in the opercle, free; anthers erect, affixed at the base, apiculate; orifices terminal, round; capsule valveless; seeds whitish; pollen very minute. *W. Herb.*

DESCRIPTION, &c.—Though the Snowdrop is so common a flower, very few persons are aware of the botanical construction of this

“First pale blossom of the unripened year.”

The outer divisions of the flower, which are of a snowy whiteness, are the sepals of the calyx; while the petals are the short scale-like bodies, bordered and striped with green, which form the inner part. Thus, when the flower becomes double, it is only in the inner part, from the stamens being changed into petals, as is always the case with double flowers. There are only two species of *Galanthus*. The name of the genus is derived from two Greek words, signifying Milk-flower, in allusion to the whiteness of the flowers.

1.—GALANTHUS NIVALIS, *Lin.* THE COMMON SNOWDROP.

ENGRAVINGS.—*Eng. Bot.* t. 19; 2nd ed. vol. iii. t. 466.

SPECIFIC CHARACTER.—Bulb small; leaves narrow, flat; sepals and

petals springing from the same base.

VARIETY.—*G. n.* 2 fl. pl. Flowers double.

DESCRIPTION, &c.—The elegant simplicity of the single snowdrop, and the earliness of its appearance, have always rendered it a favourite flower with poets; and many very beautiful lines have been written on it. The construction of the flower has been already described; and it is only necessary to add, that it varies very much in size, according to the soil and situation in which it is grown. It is a native of England, where it is found in woods and shady dells; the double flower is a garden variety, and it is usually smaller in size than the wild single plant. The bulbs should be planted in September or October, and they should not be removed, except when absolutely necessary.

2.—GALANTHUS PLICATUS, *Bieb.* THE FOLDED, OR RUSSIAN SNOWDROP.

SYNONYMES.—*G. nivalis*, *Pallas*; *G. n.* var. *Red.*; *G. Clusii*, *Otto*; *Leucojum bulbosum*, *Clus.*

ENGRAVINGS.—*Bot. Mag.* t. 2162; *Bot. Reg.* t. 545.

SPECIFIC CHARACTER.—Bulb larger. Leaves longer, with their

margins folded back. Scape more robust. Flower smaller, green, more intense. Petals set more in than the sepals, and having more the appearance of a scale.—*W. Herb.*

DESCRIPTION, &c.—The bulb of this species is much larger than that of the Common Snowdrop, but the flower is smaller; and the petals forming the inner part are of a deep green. The leaves are broader than in the common kind, and they are curiously folded at the edges, whence the specific name of *plicatus*, which signifies plaited or folded. It is a native of Russia, and though it was first brought to England in 1592, it is very rarely in British gardens; probably from the flower being less showy than that of the common kind.



## GENUS XLI.

ERINOSMA, *W. Herb.* THE SPRING SNOWFLAKE, OR ST. AGNES'-FLOWER.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Bulb ovate. Leaves linear-lorate. Scape 1—2-flowered, pedunculated. Germen triangular, obovate, pendulous; spathe tubular below, above slit on one side, transparent on the other. Segments of the perianth obovate, separate, similar. Filaments short, equal, free, erect, inserted in the opercle. Anthers erect, affixed at the base, not apiculate; orifices terminal, and style club-shaped, (that is, thick at top, and attenuated downwards). Stigma triangular, slender, tapering to a point. Capsule turbinate, seeds yellowish white. (*W. Herb.*)

DESCRIPTION, &c.—The following observations on this genus are made by Mr. Herbert, who divided it from *Leucojum*. “This is no *Leucojum*, for that genus has shining testaceous black seeds like those of *Hemerocallis*, and a style attenuated at both ends, like the roller used by pastry-cooks. It differs from *Galanthus* in having the petals like the sepals, and the style club-shaped and thick instead of slender and tapering upwards; it differs from *Acis* in the complete separation of the segments of the perianth, which are united in *Acis*; in the style being attenuated downwards instead of upwards; in the acute stigma and round orifices of the anthers, and in the leaves not being filiform.”

1.—ERINOSMA VERNUM, *W. Herb.* THE SPRING SNOWFLAKE.

SYNONYMES. — *Leucojum vernum*, *Lin.*; St. Agnes's-flower; great Early Bulbous Violet. *Park.* ENGRAVINGS.—*Bot. Mag.* t. 46; and our *fig. 1*, in Plate 40. SPECIFIC CHARACTER.—Spathe longer than the peduncle; segments of the perianth concave, oval, with a blunt point; a green spot on the outside of each just below the point. Flower fragrant. (*W. H. abridged.*)

DESCRIPTION, &c.—This very elegant bulb flowers about a month later than the snowdrop, which it greatly resembles, though it is far more beautiful. It is dedicated to St. Agnes, the patron saint of young virgins, from its loveliness and purity. It should be planted in peat; and in very wet seasons, it may be advisable to take up the bulbs, though in ordinary cases they may be left for several years together in the ground. It is a native of Germany and Italy, where it is found wild in thick woods; and it was introduced before 1596, since which time it has been common in English gardens.

2.—ERINOSMA CARPATHICUM, *W. Herb.* THE CARPATHIAN SNOWFLAKE.

SYNONYMES. — *Leucojum vernum*, var. *β Ker*; *L. pratense majus*, *Chus.* SPECIFIC CHARACTER.—Spathe 2-flowered. Spots on the perianth yellow. ENGRAVING.—*Bot. Mag.* t. 1993.

DESCRIPTION, &c.—This plant differs from the common snowflake in having yellow spots on its flower instead of green ones, and in having two flowers on one stalk. It is a native of Hungary, where it is found wild on the Carpathian Mountains, and whence it was introduced in 1816. It is seldom found in British gardens; and it is not very ornamental, as the yellowish spots on its flowers look like faded green.

## GENUS XLII.

ACIS, *Salis.* THE ACIS, OR NARROW-LEAVED SNOWFLAKE.

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Lin. Syst. HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth just united at the base ; segments nearly similar ; filaments inserted in the disk ; free, short, and straight ; anthers erect, affixed at the base ; dehiscent on the outer side near the orifice ; style filiform, a little attenuated upwards ; stigma a little divided ; seeds fleshy, angular. Bulb ovate ; leaves filiform ; scape 1—few-flowered ; spathe 2-valved ; germen pendulous. *W. Herb.*

DESCRIPTION, &c.—These plants are easily distinguished from the true snowflakes, by the smallness of their flowers, and the narrowness of their leaves. They were formed into a separate genus by Mr. Salisbury ; and his division has been adopted by Mr. Herbert.

1.—ACIS TRICHOPHYLLA, *Sweet.* THE TRIANGULAR-LEAVED ACIS.

SYNONYMES.—*Leucojum trichophyllum*, *Brot.* ; *L. autumnale uniflorum*, *Red.*

ENGRAVING.—*Bot. Mag.* t. 544.

SPECIFIC CHARACTER.—Scape one-flowered ; perianth oval, white ; flowers vernal. *W. Herb.*

DESCRIPTION, &c.—The flowers of this little plant are white and small ; and the leaves filiform. It is a native of Portugal and the coast of Barbary, whence it was introduced in 1820. It is rather tender, and requires protection during winter ; and hence it is generally grown in a pot. The flowers are produced singly in spring, and the whole plant seldom exceeds six inches in height. It should be grown in light sandy soil.

2.—ACIS GRANDIFLORA, *Sweet.* THE LARGE-FLOWERED ACIS.

SYNONYME.—*Leucojum grandiflorum*, *Red.*

ENGRAVINGS.—*Red. Lil.* t. 217 ; *Herb. Amaryll.* Pl. 30, fig. 4.

SPECIFIC CHARACTER.—Scape 2—4-flowered ; perianth oval, white. *W. Herb.*

DESCRIPTION, &c.—A very pretty species, with snow-white flowers, rather larger than those of the other kinds, and more drooping.

3.—ACIS ROSEA, *Sweet.* THE ROSE-COLOURED ACIS.

SYNONYME.—*Leucojum roseum*, *Mart.*

ENGRAVINGS.—*Swt. Brit. Fl. Gard.* t. 297 ; and our *fig. 4* in Pl. 40.

SPECIFIC CHARACTER.—Spathe 1-flowered ; perianth oval, pink. Leaves glaucous. *W. Herb.*

DESCRIPTION, &c.—The bulb of this species is white, and nearly round ; and from it rises a membranous tubular sheath, ending in a sharp point, in which the flower and one single leaf are enclosed. Two or three flowers afterwards appear in succession ; and when the flowers have withered, several other leaves expand, which spread out, and remain all the winter ; dying off the following summer, when the bulb takes its season of rest. The flowers are produced in autumn, and as three or four are produced in succession, it continues in bloom a long time. Each flower has a separate flower-stalk or scape ; and the flowers droop gracefully. The whole plant does not exceed six inches in height. It is a native of the South of Europe, whence it was introduced about 1825. It requires protection during winter, and consequently, is generally kept in a pot in a greenhouse. It should be grown in very sandy loam ; and kept hot and dry during its season of rest.



1. *Scilla non-scripta* 2. *Scilla autumnalis* 3. *Scilla autumnalis*
var. rosea 4. *Scilla autumnalis* 5. *Scilla autumnalis*

Bot. Beech. 1847. n. 100

4.—*ACIS AUTUMNALIS*, *Sal.* THE AUTUMN-FLOWERING ACIS.

SYNONYMES.—*Leucojum autumnale* *Lin.* ; *L. bulbosum autumnale*, *Bauh.*

ENGRAVINGS.—*Bot. Mag.* t. 960 ; and our *fig.* 3 in Plate 40.

SPECIFIC CHARACTER.—Spathe 2—3-flowered ; perianth white, red at the base ; segments 3-cleft at the end ; leaves green. *W. Herb.*

DESCRIPTION, &c.—This very pretty little plant has generally two flowers, and very rarely three. The flowers appear before the leaves in autumn, about a month later than those of the preceding species ; and the scape is rather long and very slender. The leaves frequently do not show themselves till spring. The species is a native of Spain, Portugal, and Algiers, growing on dry sandy hills. It is particularly found in great abundance at Gibraltar and near Badajos. It was introduced before 1620 ; and is still frequent in collections where it is treated as a greenhouse plant, and kept hot and dry during summer.

GENUS XLIII.

LEUCOJUM, *Lin.* THE SNOWFLAKE.

Lin. Syst. HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth 6-cleft, segments separate, nearly equal (narrowed near the point), style slender, clavate ; stigma acuminate ; filaments inserted in the disk ; anthers erect, dehiscent on the outer side, from the terminal orifice, but not to the base ; capsule soft, triangular, turbinate, 3-valved, semi-dehiscent ; bulb ovate ; leaves vaginating, erect, linear-lorate scape few, many-flowered ; spathe

1-leaved, deeply slit, withering ; germen obovate. Seeds nearly round, outer coat loose, foliaceous, glossy black ; inner coat brown, soft, separable ; albumen horny, with a large circular chalaza, not visible till the coats are removed ; embryo curved, reaching to the foramen. *W. Herb.*

DESCRIPTION, &c.—The genus *Leucojum* has been restricted by Mr. Herbert to *L. æstivum*, and two other species ; one of which is supposed to be a variety, and the other is not common in British gardens. The original genus *Leucojum* was established by Linnæus, and the name is derived from two Greek words, signifying a white violet.

1.—*LEUCOJUM ÆSTIVUM*, *Willd.* THE SUMMER SNOWFLAKE.

SYNONYMES.—*L. pulchella*, *Salis* ; Bulbous violet.

ENGRAVINGS.—*Bot. Mag.* t. 1210 ; and our *fig.* 2, in Plate 40.

SPECIFIC CHARACTER.—Leaves green ; scape flattened, 2-edged.

Perianth white, with a faint green spot on each segment near the end. Seeds as big as a pea. The valves of the capsule gape near the top, but adhere at the point, and do not open at the base. *W. Herb.*

DESCRIPTION, &c.—A very pretty plant, from the bright green spots on its white, drooping flowers, though it is much less ornamental than the spring Snowflake. The leaves of this species are of a bright yellowish green ; a rather uncommon case, as the leaves of most bulbs have a bluish tinge, except when they are beginning to decay. It is a native of various parts of Europe, and is even found wild in England ; but it is supposed not to be a true native. It is quite hardy, and it flowers in May.

GENUS XLIV.

GETHYLLIS, *Lin.* THE GETHYLLIS, OR CAPE CROCUS.*Lin. Syst.* HEXANDRIA-DODECANDRIA MONOGYNIA.

GENERIC CHARACTER.—Bulb ovate, coats often imperfect; leaves linear; scape and germen concealed in the bulb; tube cylindrical, long, adhering to the lower part of the style; limb regular, patent; filaments short, straight, diverging, sometimes doubled or trebled, or multiplied

numerously, inserted at the mouth of the tube; anthers erect, attached at the base; style erect; stigma simple or triangular; capsule with the scape extended, diaphanous, pulpy. Seeds small, round. *W. Herb.*

DESCRIPTION, &c.—Mr. Herbert places this genus between *Pyrilirion* and *Sternbergia*; but, as the list of my plates was made out from the new edition of Sweet's *Hortus Britannicus*, revised by Mr. George Don, I have placed it in the situation assigned to it in that work. The species are South African bulbs.

1.—GETHYLLIS SPIRALIS, *Lin.* THE SPIRAL-LEAVED GETHYLLIS.

SYNONYME.—*Papiria spiralis*, *Thun.*

ENGRAVINGS.—*Bot. Mag.* t. 1088; and our *fig.* 5 in Plate 40.

SPECIFIC CHARACTER.—Leaves narrow, smooth, a little spiral; tube much longer than the limb; filaments six. *W. Herb.*

DESCRIPTION, &c.—This is a very remarkable little plant, from its scaly bulb, which bears considerable resemblance to that of a lily, having large loose scales. The flower itself is pretty, but it possesses no charms to warrant the name given to it by Linnæus, if it be true that the word *Gethyllis* is derived from a Greek word signifying to rejoice. The leaves are twisted in a spiral manner, and hence the specific name *spiralis*. The plant is a native of South Africa, whence it was introduced about 1806. It should be grown in a pot in light sandy soil.

2.—GETHYLLIS AFRA, *Lin.* THE AFRA GETHYLLIS, OR MANY-LEAVED CAPE CROCUS.

ENGRAVING.—*Bot. Mag.* t. 1016.

SPECIFIC CHARACTER.—Leaves narrow, smooth, spotted. Tube thicker and longer than that of *spiralis*: anthers large, 10 or 12; style

longer than the filaments; stigma triangular, almost three lobed. Flowers fragrant. *W. Herb., abridged.*

DESCRIPTION, &c.—This is a very rare and a very curious plant. Independently of its scaly bulb, in which it resembles the preceding species; it presents the anomaly of having twelve stamens; which, according to the Linnæan system, would place it in a different class and order to the *G. spiralis*, which has only six. It is also said to be the only *Amaryllidaceous* plant yet discovered with twelve fertile stamens, though in the genus *Phycella* there are six fertile ones, and six sterile; that is, which produce no pollen. The flowers are very fragrant, and the berries, which are of a transparent yellow, and have an agreeable smell, are said to be eatable. The plant is a native of the Cape of Good Hope, whence it was imported before 1826. It should be grown in sandy loam, and kept in a frame during winter.

CHAPTER V.

HEMEROCALLIDEÆ.

ESSENTIAL CHARACTER.—Perianth of six regular coloured segments, cohering into a tube. Stamens six, inserted in the perianth; anthers bursting inwardly. Ovarium superior; stigma simple or three-lobed. Fruit succulent or capsular, three-celled. Seeds soft and pale, packed one upon another in one or two rows. Albumen fleshy; embryo in the same direction as the seed.

DESCRIPTION, &c.—Most botanists consider this as a section of *Liliaceæ*, but it was made a separate order by Dr. Brown. It consists mostly of fibrous-rooted plants with lily-like flowers, like those of the *Hemerocallis*, or Day lily, from which it takes its name, *Agapathus*, the African lily; *Polianthes*, the tuberose, &c. The only bulbous plants it contains are those included in the genera *Veltheimia*, *Brodiaea*, and *Calliprora*, the latter two natives of North America, and hardy plants; but the former, a Cape bulb, requiring a slight protection during winter.

GENUS I.

VELTHEIMIA, *Lin.* THE VELTHEIMIA.

Lin. Syst. HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth cylindrical; limb very short, erectly spreading, 6-toothed, regular; segments nearly equal. Filaments subulate, filiform, declined; stigma cuspidate. Capsule membranous, three-winged, subovate; cells 5, one-seeded. Seeds obovate. attached to the middle of the tube, upper part free, included. Style

DESCRIPTION, &c.—Showy Cape bulbs, which were formerly very common in gardens, but are now rarely to be met with. The genus was named in honour of the Baron Von Veltheim, a German patron of botany.

1.—VELTHEIMIA GLAUCA, *Jacq.* THE GLAUCOUS VELTHEIMIA.

SYNONYME.—*Aletris glauca*, *Ait.*

ENGRAVING.—*Bot. Mag.* t. 1091.

SPECIFIC CHARACTER.—Leaves broadly-lanceolate, acute, undulated,

glaucous. Limb of the perianth somewhat spreading.

VARIETY.—*V. g. 2 rubra*, *Bot. Mag.* t. 3456; and our *fig. 1*, in Plate 41. Flowers red.

DESCRIPTION, &c.—A curious plant with a pyramidal bulb, broadly-lanceolate leaves, and long tube-shaped flowers, which in the species are white, but in the variety red. Both the species and variety are natives of the Cape, whence the first was introduced in 1781, and the latter about 1820. The plants are tolerably hardy, and are injured by too much heat; but they must be kept in the greenhouse, as they flower in November and December.

2.—VELTHEIMIA VIRIDIFOLIA, *Gledit.* THE GREEN-LEAVED VELTHEIMIA.

SYNONYME.—*Aletris capense*, *Lin.*

ENGRAVING.—*Bot. Mag.* t. 501.

SPECIFIC CHARACTER.—Leaves lanceolate, plicately-undulated, obtuse. Teeth of the limb rounded. Spike ovate; flowers naked.

DESCRIPTION, &c.—This species was formerly considered to belong to the genus *Aletris*; the flowers are pink, shaded into a lighter colour at the tip, but with four or five streaks of red through the lighter part. It may be

grown in the open air ; but as it requires protection during winter, and as it flowers from November to April, it succeeds best in a greenhouse. It is a native of the Cape, whence it was introduced in 1768. It is very scarce ; as it very seldom either perfects its seeds, or makes offsets.

OTHER SPECIES OF VELTHEIMIA.

V. INTERMEDIA, *G. Don.*

The preceding species have been principally distinguished by their leaves, which in one kind are glaucous, and in the other green, and this species is intermediate between the two. It is a native of the Cape, and was introduced in 1819.

GENUS II.

BRODIÆA, *Smith.* THE BRODIÆA.

Lin. Syst. TRIANDRIA MONOGYNIA.

<p>GENERIC CHARACTER.—Perianth campanulate, 6-cleft, persistent ; with faucial scales opposite the exterior segments, sometimes bearing anthers. Scales three, fleshy, hypogynous. Stamens three, inserted in the throat of the tube, alternately with the scales ; anthers 2-lobed</p>	<p>at the base. Style subulate, and sending in a three-lobed stigma. Capsule woolly, obovate, 3-celled, and each cell bursting into three valves. Seeds four or five in each cell, obovate, striated ; skin membranous ; chalaza depressed. Flowers produced in umbels.</p>
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DESCRIPTION, &c.—This genus was named by Sir James Edward Smith, in compliment to James Brodie, Esq., of North Britain. Its botanical construction is remarkable ; as some of its stamens are metamorphosed into fleshy-looking scales, adhering to the mouth of the flower ; and in that state frequently bearing anthers.

1.—BRODIÆA GRANDIFLORA, *Smith.* THE LARGE-FLOWERED BRODIÆA.

SYNONYME.—*Hookeria coronaria, Salis.*

ENGRAVINGS.—*Bot. Mag.* t. 2877 ; *Bot. Reg.* t. 1183 ; *Botanist*, No. 35 ; and our *fig.* 3, in Plate 41.

SPECIFIC CHARACTER.—Flowers pedunculated and corymbose. Segments of the perianth lanceolate, entire. Scales membranaceous, very obtuse.

DESCRIPTION, &c.—The bulb is very small, and much wrinkled. The leaves are long, slender, and grooved in the inside. The stem is round, and it is terminated by a corymb or umbel of handsome dark purple flowers. The plant is quite hardy, and it grows and flowers freely in the open border in peat soil. It is a native of New Georgia, on the north-west coast of North America, where it was first found by Mr. Menzies in 1792 ; though it was only introduced in a living state by Douglas in 1826. Bulbs of this species may be procured in all the seed-shops.

OTHER SPECIES OF BRODIÆA.

B. CONGESTA, *Lin.*

This species has the flowers in closer heads, and in them the scales almost always bear anthers as well as the perfect stamens. The segments of the perianth are also slightly cleft at the tip, while they are entire in *B. grandiflora*.

The other species that were at first supposed to belong to *Brodiaea* have been removed to other genera.



Adonis autumnalis *Adonis vernalis* *Adonis autumnalis*
Adonis autumnalis *Adonis vernalis* *Adonis autumnalis*
Adonis autumnalis *Adonis vernalis* *Adonis autumnalis*

GENUS III.

CALLIPRORA, *Lindl.* THE CALLIPRORA.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth subcampanulate, 6-parted. Stamens six, all fertile, but three of them shorter than the others. Filaments petal-like, two-lobed, with sessile anthers, fixed between the lobes. Ovary stipitate, 3-celled, many-seeded: style single; stigma 3-lobed. Capsule membranous, 3-angled.

DESCRIPTION, &c.—This genus is nearly allied to *Brodiaea*; but it differs in having six perfect stamens, with petal-like, two-lobed filaments, all bearing anthers, instead of having half the stamens without anthers, and resembling scales. The name signifies “pretty face.” There is only one species.

1.—CALLIPRORA LUTEA, *Lindl.* THE YELLOW CALLIPRORA.

ENGRAVINGS.—Bot. Reg. t. 1590; and our *fig.* 5 in Plate 41.

SPECIFIC CHARACTER.—Leaves long, weak, channelled. Scape

round, erect. Flowers umbellate. Bractes of the spathe ovate, very short.

DESCRIPTION, &c.—A little plant, with yellow star-like flowers, which at first sight resemble those of *Ornithogalum*. It was found by Douglas in Northern California, and it proves quite hardy in British gardens, only requiring a shady situation and peat soil.

CHAPTER VI.

ASPHODELACEÆ.

ESSENTIAL CHARACTER.—Perianth 6-partite or 6-cleft, petaloid, regular. Stamens 6, inserted upon the perianth or hypogynous; the three that are opposite the outer leaflets sometimes dissimilar or wanting. Ovary free, 3-celled, with the cells many, rarely 2-seeded. Style 1; stigma undivided or shortly 3-lobed. Pericarp, in most, a 3-celled, 3-valved capsule, with the valves bearing the dissepiments; sometimes an undivided or rarely a tripartite berry. Seeds with a black crustaceous fragile testa. Albumen fleshy, including the embryo. (*Hooker.*)

DESCRIPTION, &c.—This order, though founded on a fibrous-rooted plant, the Asphodel, or King's spear, contains many interesting bulbs, and among others, the *Ornithogalums*, *Scillas*, *Hyacinths*, &c., which form some of the finest ornaments of our gardens. They are all hardy, or very nearly so; and all flowering in spring or summer, the winter is their proper season of rest. This renders their culture easy, as many of the former species require protection only from their flowering in winter, and having their time of rest in our summer.

GENUS I.

CAMASSIA, *Lindl.* THE QUAMASH.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Bulb tunicated. Perianth in six widely-spreading segments, one of which is bent in a different direction from the others. Stamens 6, hypogynous, equal; filaments glabrous, ascending.

Ovary 3-celled, many-seeded. Style bent downwards; stigma obsoletely 3-toothed. Capsule papery, 3-celled, 3-valved, opening naturally; with six seeds in each cell.

DESCRIPTION, &c.—There is only one species of this genus. The name is altered from the Indian word Quamash or Camass, which is applied to the plant.

1.—CAMASSIA ESCULENTA, *Lindl.* THE EATABLE CAMASSIA, OR INDIAN QUAMASH.SYNONYME.—*Phalangium esculentum*, *Nutt.*ENGRAVINGS.—*Bot. Reg.* t. 1486; and our *fig.* 4 in Plate 41.

SPECIFIC CHARACTER.—Leaves long, linear, acuminate. Segments of the perianth lanceolate; upper five sessile, ascending; lower, unguiculate, decurved.

DESCRIPTION, &c.—A very beautiful plant, common in North-West America, where its bulbs are used by the Indians as an article of food, being first baked between hot stones. When thus dressed, the bulbs assume the appearance of baked pears, and are said to be very good to eat, having a sweet and agreeable taste. It is quite hardy, but it does best grown in peat in a shady situation. Douglas found it growing on alluvial soils, on the banks of the Columbia, partly overflowed by the river; and he met with a white variety, or perhaps distinct species, not yet introduced.

GENUS II.

BESSERA, *Lindl.* THE BESSERA.*Lin. Syst.* MONODELPHIA HEXANDRIA.

GENERIC CHARACTER.—Flowers in umbels. Perianth pendulous, campanulate, divided into six equal segments. Stamens connected at the base into a kind of cup, all of equal length, projecting beyond the

flower. Ovary sessile; cells many-seeded. Stigma obscurely trilobed, pubescent. Capsule erect, opening into three valves. Seeds compressed, and covered with a black, membranous skin.

DESCRIPTION, &c.—Bulbous plants, natives of Mexico, whence they have been very lately introduced. The name is given in honour of Dr. Besser, Professor of Botany at Brody.

1.—BESSERA ELEGANS, *Lindl.* THE ELEGANT BESSERA.ENGRAVINGS.—*Bot. Reg.* 1839, t. 24; and our *fig.* 2 in Plate 41.

SPECIFIC CHARACTER.—Stamens growing out of a pitcher-shaped

body, slightly toothed, one tooth between every two stamens. Filaments pubescent, and longer than the style.

DESCRIPTION, &c.—This very beautiful plant was sent from Mexico to England in 1837, and it appears hardy, though it has as yet been kept in the greenhouse. The bulb is about the size of a crocus, and the plant flowers in September. It should be grown in peat and sand, and it should have a season of complete rest when the leaves drop.

2.—BESSERA HERBERTI, *Lindl.* MR. HERBERT'S BESSERA.SYNONYME.—*Pharium fistulosum*, *W. Herb.*ENGRAVING.—*Bot. Reg.* t. 1546.

SPECIFIC CHARACTER.—Staminal cup not toothed; filaments smooth; style longer than the stamens. Leaves and stem hollow.

DESCRIPTION, &c.—Very far inferior to the preceding species in appearance. The flowers, indeed, which are of a dark dull purple, have very little beauty to recommend them. This species is also a native of Mexico, whence it was introduced in 1832.

GENUS III.

PUSCHKINIA, *Bieb.* THE PUSCHKINIA.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Flowers in a terminal corymb. Perianth 6-parted; segments lanceolate, spreading. Cup divided into six lobes, which are unequally toothed at the margin. Stamens with very short

filaments attached to the inside of the cup. Style somewhat longer than the stamens; stigma obtuse, lobed.

DESCRIPTION, &c.—This genus was named in honour of Count Puschkin. There is only one species.

1.—PUSCHKINIA SCILLOIDES, *Adam.* THE SQUILL-LIKE PUSCHKINIA.SYNONYME.—*Adamsia scilloides*, *Willd.*ENGRAVINGS.—*Bot. Mag.* t. 2244; and our *fig.* 6 in Plate 41.

SPECIFIC CHARACTER.—Leaves radical, erect, concave, sheathing the stem.

DESCRIPTION, &c.—A little plant, with white flowers resembling those of a *Scilla*. The leaves grow from the root, and stand erect round the stem, as though protecting the flower. It is a native of Russia, and it is quite hardy.

GENUS IV.

ALBUCA, *Lin.* THE ALBUCA.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth 6-parted; the three outer segments spreading, the three inner ones connivent. Stamens six, all fertile, or three fertile and three sterile. Style an inverted pyramid; stigma acute, three-lobed, encircled with a hairy belt.

DESCRIPTION, &c.—This genus contains many species, but none remarkable for the beauty of the flowers. The name of *Albuca* signifies whitish, in allusion to the colour of the flowers.

1.—ALBUCA MAJOR, *Willd.* THE LARGER ALBUCA.SYNONYMES.—*A. lutea*, *Lam.*; *Ornithogalum canadense*, *Lin.*ENGRAVINGS.—*Bot. Mag.* t. 804; and our *fig.* 1 in Plate 42.

SPECIFIC CHARACTER.—Leaves broadly subulate, channelled; peduncles racemose, spreading; flowers drooping.

DESCRIPTION, &c.—This species is rather handsomer than most of the others belonging to the genus, on account of its scarlet bracts. The flowers are large and of a greenish yellow, and the leaves long and pointed at the extremity. It was first supposed to be a native of Canada, but it is in fact from the Cape of Good Hope, and was introduced in 1767. It should be grown in sandy soil, and requires protection during winter.

2.—ALBUCA MINOR, *Willd.* THE LESSER ALBUCA.SYNONYMES.—*A. lutea*, β *Lam.*; *Ornithogalum canadense*, β *Lin.*; *O. africanum*, *Herm.*ENGRAVING.—*Bot. Mag.* t. 720.

SPECIFIC CHARACTER.—Leaves linear.

DESCRIPTION, &c.—This plant differs very little from the preceding species, except in the leaves being narrower, and the flowers smaller. They are also without the scarlet bracts. It was found growing by Thunberg, with *A. major*, in the sands near Saldanha Bay, in South Africa, where it is about a foot high. It was introduced in 1768. It should be grown in sandy peat, and kept in a greenhouse during winter.

3.—ALBUCA VIRIDIFLORA, *Jacq.* THE GREEN-FLOWERED ALBUCA.ENGRAVING.—*Bot. Mag.* t. 1656.

SPECIFIC CHARACTER.—Leaves linear-attenuated, convolutely channelled, flaccid.

DESCRIPTION, &c.—This species is easily distinguished by its grass-green flowers, the outer segments of which are less spreading than in most of the other species. The bulb in all the species has greatly the resemblance of a turnip radish; and in this, it might be mistaken for one. The species was introduced from the Cape by Mr. Masson, in 1794; and it requires the same culture as the other kinds. The above three species differ very little from each other, except in the leaves.

4.—ALBUCA SETOSA, *Jacq.* THE BRISTLY ALBUCA.ENGRAVING.—*Bot. Mag.* t. 1481.

SPECIFIC CHARACTER.—Bulb scaly, and each scale edged with bristles.

Leaves lorate, attenuated towards the point. Flowers large, stamens all fertile.

DESCRIPTION, &c.—This very singular species is easily known from all others by its green, scaly bulb, which has each scale fringed with yellow bristles. The plant is coarse-growing; the flowers are large and yellowish, and they have a slight scent, like that of bitter almonds. It is a native of the Cape, whence it was introduced in 1795.

5.—ALBUCA VITTATA, *Ker.* THE RIBAND ALBUCA.ENGRAVING.—*Bot. Mag.* t. 1329.

SPECIFIC CHARACTER.—Bulb small, closely tunicated. Segments of the perianth equal, all recurved; stamens and style exerted.

DESCRIPTION, &c.—This species affords a great contrast to the last; the bulb is about the size of a pigeon's egg. The flower-stem is shorter than the leaves; and the flowers are yellow, striped with green. All the segments of the perianth turn back, and leave the style and stamens exposed. It is a native of the Cape of Good Hope, whence it was introduced in 1811; and it is so different from the other species as to seem to belong to another genus. It flowers in August.

6.—ALBUCA PHYSODES, *Jacq.* THE DINGY-FLOWERED ALBUCA.ENGRAVINGS.—*Bot. Mag.* t. 1046; and our *fig.* 3 in Plate 42.

SPECIFIC CHARACTER.—Bulb subtunicate, very large. Leaves short, broad, and appearing long after the inflorescence. Raceme upright,

many-flowered. Stamens all fertile; filaments covered with glandular pubescence.

DESCRIPTION, &c.—This species is again very different from the preceding ones. The bulb is very large, and almost solid; there are five or six short, broad leaves, which do not appear till after the disappearance of the flower, and an upright pyramidal raceme, with small white flowers. The species is a native of the Cape of Good Hope, whence it was imported in 1804. It flowers in June. It should be grown in sandy peat, and it requires protection during winter.

7.—ALBUCA EXUVIATA, *Ker.* THE ADDER'S SKIN ALBUCA.SYNONYME.—*Anthericum exuviatum, Jacq.*ENGRAVINGS.—*Bot. Mag.* t. 871; and our *fig.* 2 in Plate 42.

SPECIFIC CHARACTER.—Tunics of the old bulbs persistent, forming

rings, from the deepness of the wrinkles. Flowers in an upright raceme. Segments of the perianth all spreading. Style triangular, fleshy; stigma hairy. Seeds flat, winged.

DESCRIPTION, &c.—This plant forms the connecting link between *Albuca* and *Ornithogalum*; as it has the large bracts and general habit of the former genus, with the star-like flower of the latter. The most remarkable feature is, however, the dry skin-like substance that sheaths the flower-stalks, which is formed of the remains of the tunics of the old bulbs, and closely resembles an adder's skin. This plant is a native of the Cape, whence it was introduced about 1804. It is generally grown with the bulb above-ground.

8.—ALBUCA FUGAX, *Lindl.* THE FUGACIOUS ALBUCA.SYNONYME.—*Anthericum fragrans, Jacq.*ENGRAVING.—*Bot. Reg.* t. 311.

SPECIFIC CHARACTER.—Leaves numerous, somewhat triangular, filiform, subulate, much shorter than the scape, erect; style declined, curved.

DESCRIPTION, &c.—The flower resembles that of *A. vittata*, but it is larger; and the species is easily distinguished by the leaves, which are fleshy and awl-shaped. The flower is striped with pink and green, and it very soon fades. The species is a native of the Cape, whence it was introduced in 1795.



1. *Althaea rosea* 2. *Althaea rosea* 3. *Althaea rosea* 4. *Althaea rosea*
 5. *Althaea rosea* 6. *Althaea rosea* 7. *Althaea rosea*

1815. H. B. K. & C. F. W. Mey.

OTHER SPECIES OF ALBUCA.

A. ALTISSIMA, *Willd.*

A tall species, with green and white flowers, introduced from the Cape in 1780.

A. CORNUTA, *Redouté.*

The flowers are white and green, and three of the petals stick out like horns. Introduced in 1812.

A. FLACCIDA, *Willd.*

Flowers yellow and green. Introduced in 1791.

A. COARCTATA, *Willd.*

A species with yellow flowers ; introduced in 1774. All the above species resemble *A. major* in the form of the flowers, and in having only three fertile stamens.

A. FASTIGIATA, *Willd.*

An upright-growing plant, with white flowers.

A. CAUDATA, *G. Don.*

An upright-growing plant, with white and green flowers.

A. AUREA, *Willd.*

A yellow flower, slightly tinged with green. Introduced in 1825.

A. ABYSSINICA, *Willd.*

Flowers white, yellow, and green.

A. FILIFOLIA, *Ker.*

Flowers white and green. Introduced in 1825.

A. FRAGRANS, *Willd.*

Flowers yellow, and green, and sweet-scented. Introduced in 1791.

A. SPIRALIS, *Willd.*

Flowers striped with green ; leaves twisted. Introduced in 1795.

A. VISCOSA, *Willd.*

Flowers white, yellow, and green ; leaves clammy. Introduced in 1779.

A. PARVIFLORA, *Salis.*

Flowers small, yellow, and green. Introduced in 1812.

A. NEMATODES ANTHERICUM, *G. Don ; Syn. ANTHERICUM NEMATODES, Salis.*

Flowers white and purple. Introduced in 1812.

A. ANTHERICOIDES, *G. Don ; ANTHERICUM ALBUROIDES, Willd.*

Flowers yellow and green. Introduced in 1788.

GENUS V.

ORNITHOGALUM, *Lin.* THE STAR OF BETHLEHEM.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth inferior, 6-parted, erect; segments | filaments dilated at the base; inserted in the receptacle. Style one. spreading above, but convergent below, persistent. Stamens six; | Stigma capitate. Capsule 3-celled. Seeds roundish, naked.

DESCRIPTION, &c.—This is a genus of showy plants, which, from their star-like flowers, have received the English name of Star of Bethlehem. The Latin name is more singular; as it means literally “bird’s milk.” This singular name is supposed to allude to the whiteness of the excrement of birds, which the mingled green and white of the flower-buds of some of the species resembles in colour. The bulb, when boiled, was an article of food in the East; and it is supposed to be the “doves’ dung,” which was sold at so high a price during the siege of Samaria, as recorded in the Holy Scripture (2nd Book of Kings, Chap. vi., 25).

SECTION I.—FLOWERS UMBELLATE.

1.—ORNITHOGALUM MONTANUM, *Tenore.* THE MOUNTAIN ORNITHOGALUM.

ENGRAVING.—Swt. Brit. Flow. Gard., 2nd ser. t. 42.

SPECIFIC CHARACTER.—Flowers in corymbose racemes; peduncles longer than the bracts. Segments of the perianth oblong-lanceolate.

Peduncles of the fruit refracted. Capsules ovate, 6-angled. Leaves elongately lanceolate, channelled. Bulb solid, simple.

DESCRIPTION, &c.—This is a very curious little plant. The peduncles of the flowers are longer than the scape; the leaves are numerous, and spreading all round like radii; they are drawn out at the extremity to a long, slender point, and they look as if folded, forming a deep recess on the upper surface, and a projection or keel on the lower one. The form and disposition of the leaves, with the short scape, and the abundance of white, star-like flowers, make this a very ornamental species, particularly for rockwork. It is a native of Naples, and as it is rather tender, the ground in which it is planted should be covered with leaves in winter, to protect it from severe frosts. It should be grown in sandy loam; and it may be left in the ground for several years without any other care than that of throwing leaves over it in winter. The bulb is large, and without offsets; thus forming a strong contrast to some of the species, which appear to be perfectly encircled with them. The flowers are generally produced in April. It was introduced in 1825.

2.—ORNITHOGALUM UMBELLATUM, *Smith.* THE UMBEL-FLOWERED ORNITHOGALUM, OR COMMON STAR OF BETHLEHEM.

ENGRAVINGS.—Eng. Bot. t. 130; 2nd edit. t. 482.

SPECIFIC CHARACTER.—Inflorescence corymbose; peduncles longer than the bracts; filaments tapering, entire.

DESCRIPTION, &c.—This species, though a British one, is very generally cultivated in gardens, for its perfect hardiness, and the great abundance of its white, star-like flowers, which have a peculiarly gay, or rather, cheerful, appearance. They require no care in their culture. At the very moment I am writing, our little

garden displays innumerable tufts of these bulbs, which I have seen flower every spring for the last ten years, without any attention being bestowed upon them; and, in spite of all the dangers they have been exposed to from divers gardeners, still looking as bright and as lively as ever. It is true they close their flowers in the evening, and in cloudy weather; but this only makes their whiteness more dazzling when they expand under the full influence of the sun. This species is also found in great abundance in the East, and the bulb is edible when boiled.

3.—ORINTHO GALUM REFRACTUM, *Kit.* THE REFLEXED ORNITHOGALUM.

ENGRAVING.—Swt. Brit. Flow. Gard. 2d ser. t. 58.

SPECIFIC CHARACTER.—Bulb proliferous. Flowers disposed in a racemose corymb; peduncles reflexed when in fruit. Leaves deeply channelled, with a white line down the furrow.

DESCRIPTION, &c.—This species is not very ornamental. The flowers are small and greenish; and the leaves, which are very narrow, are much longer than the flower-scape. The species bears some resemblance to *O. montanum*; but it is easily distinguished by a white line along the centre of each leaf, and by the great number of offsets produced by the bulb. It is a native of Hungary, whence it was introduced in 1825; and it is quite hardy in British gardens.

4.—ORNITHOGALUM FIMBRIATUM, *Willd.* THE FRINGED ORNITHOGALUM.

ENGRAVING.—Swt. Brit. Flow. Gard. 2d ser. t. 111.

SPECIFIC CHARACTER.—Corymb racemose, few-flowered. Segments of the perianth elongately lanceolate, acute. Leaves fringed at the margin, and densely clothed on the under side with short rigid hairs. Scape hairy.

DESCRIPTION, &c.—The leaves and flower-stem are covered with hairs, which stand out so as to form a fringe along the margin of the leaves; whence the specific name. The segments of the flower are long and narrow, and the flowers themselves of a bluish white. The species is a native of the South of Russia, whence it was introduced in 1820, and it is quite hardy in British gardens. It flowers very early, frequently in February.

SECTION II.—FLOWERS IN UPRIGHT RACEMES.

5.—ORNITHOGALUM NIVEUM, *Willd.* THE SNOWY ORNITHOGALUM.

SYNONYME.—*O. graminifolium*, *Thun.*

ENGRAVING.—Bot. Reg. t. 235.

SPECIFIC CHARACTER.—Raceme few-flowered, petals lanceolate. Leaves filiform, channelled.

DESCRIPTION, &c.—A pretty little plant, with racemes of small snow-white flowers, and long grass-like leaves. The bulb is round and green, like a potatoe-apple in form and colour, and it has a tendency to push itself out of the ground. The species is a native of the Cape of Good Hope, and was first introduced in 1774, by Mr. Masson. It was, however, soon lost, and it was reintroduced in 1816 by Mr. Burchell, who found it growing on the rocks at Zwart-water-poort, and in other similar situations. It is tolerably hardy, and it may be grown in the open ground, or on rockwork.

6.—ORNITHOGALUM REVOLUTUM, *Jacq.* THE REVOLUTE-FLOWERED ORINTHO GALUM.

ENGRAVINGS.—Bot. Mag. t. 653; Bot. Reg. t. 315.

SPECIFIC CHARACTER.—Bulb tunicated. Flowers large, segments of the perianth linear-oblong, sometimes emarginate, reflexed. Leaves radical, linear-lanceolate, subcoriaceous.

DESCRIPTION, &c.—A very handsome species, with large flowers, having a rich brown and yellow centre, disposed in a conical raceme, six or inches long. The leaves, which all spring from the root, are large and handsome, of a deep green. The species is a native of the Cape, whence it was introduced in 1795; but it is rarely

found in gardens. It is well deserving of cultivation from the large size and beauty of the flowers; the only objection being the drooping of the petals, which makes them look as though they wanted water, or were fading almost as soon as they expand. The plant should be grown in sandy loam, and it should have a slight protection during winter.

7.—ORNITHOGALUM CORYMBOSUM, *Ruiz et Pav.* THE CORYMBOSE ORNITHOGALUM.

SYNONYMES.—*O. odoratum*, *Hort.*; *O. umbellatum*, *Lindl.*
 ENGRAVINGS.—*Bot. Reg.* t. 906; *Swt. Brit. Flow. Gard.* 2d ser. t. 89; *Bot. Mag.* t. 3179.

SPECIFIC CHARACTER.—Scape round; flowers corymbose; perianth large; germen black.

DESCRIPTION, &c.—A very beautiful plant, with large white flowers, which are delightfully fragrant. The peculiar form of the filaments, broad at the base, and tapering to a slender thread at the point of insertion in the back of the anther, is very conspicuous in this species; which is also remarkable for the black germen in the centre of the flower. The bulb is large and tunicated, the outer scales being brown and hard. There are numerous large broad leaves. The species is a native of Peru, but it grows freely in the open border without any protection except that afforded by a mat being thrown over the border during severe frosts; and it is much finer and flowers much better in the open air than in a pot in a greenhouse. It was introduced in 1822, and is common in the seed-shops under the name of *Orinthogalum odoratum*.

8.—ORNITHOGALUM BIFLORUM, *D. Don.* THE TWIN-FLOWERED STAR OF BETHLEHEM.

SYNONYME.—*Scilla biflora*, *Ruiz et Pavon.*
 ENGRAVING.—*Swt. Brit. Flow. Gard.* 2d ser. t. 246.

SPECIFIC CHARACTER.—Scape filiform, longer than the leaves; pe-

duncles generally twin; bracts very short, filaments subulate, style trigonal, stigma simple.

DESCRIPTION, &c.—This species has pretty little white flowers, so small and delicate as to be very unlike those of the other species of the genus. The flower-stalk is very long; and that, combined with the small size and long peduncles of the flowers, gives the plant an extremely light and elegant appearance. It was found by Ruiz and Pavon, growing in great profusion on sandy hills in Peru; and it is quite hardy in British gardens. It has, however, so little to recommend it, compared with its more showy brethren, that it is seldom to be met with in collections, or in seed-shops. It should be grown in sand, or sandy peat.

9.—ORNITHOGALUM PRASINUM, *Ker.* THE GRASS-GREEN ORNITHOGALUM.

ENGRAVING.—*Bot. Reg.* t. 158.

SPECIFIC CHARACTER.—Leaves glaucous; upperpart twisted. Raceme

divaricate; flowers on long peduncles; filaments ovate at the base; style longer than the germen.

DESCRIPTION, &c.—This species is certainly not remarkable for its beauty. The whole plant is of a glaucous green; the flowers differing very little in colour from the leaves. The flowers, which are disposed in a loose raceme, are on very long peduncles; and the leaves, which are folded together, are somewhat twisted in the upper part. The species was brought from the Cape of Good Hope, by Mr. Burchell, in 1816; and it is found there not far from Graaf Reynett. It appears tolerably hardy, though it is generally considered a greenhouse plant.

10.—ORNITHOGALUM JUNCIFOLIUM, *Willd.* THE RUSH-LEAVED ORNITHOGALUM.

ENGRAVING.—*Bot. Mag.* t. 972.

SPECIFIC CHARACTER.—Filaments sub lanceolate. Raceme very long. Leaves awl-shaped, numerous.

DESCRIPTION, &c.—A little plant with rush-like leaves, and a spike-like raceme of very small flowers. It is a native of the Cape, whence it was introduced in 1794; and it requires a greenhouse in England.

11.—ORNITHOGALUM LATIFOLIUM, *Lin.* THE BROAD-LEAVED ORNITHOGALUM.

SYNONYMES.—*O. maximum*, *Clus.*; *Lilium alexandrinum*, *Sweet.*; *Stellaris latifolia*, *Mönch.*; *O. pyramidale*, *Hort.*

ENGRAVINGS.—*Bot. Mag.* t. 876; *Bot. Reg.* t. 1978.

SPECIFIC CHARACTER.—Raceme very long, conical. Peduncles numerous, much longer than the flowers. Leaves very broad, ligulate, and sublanceolate.

DESCRIPTION, &c.—A very showy species, which has been common in British gardens since the time of Parkinson, and which is generally sold in the seed-shops under the name of *O. pyramidale*, a name applied by Baron Jacquin to *O. narbonense*. The flowers are white and star-like, and they are so disposed as to form a handsome pyramidal raceme. The leaves are about two inches broad, and from a foot to a foot and a half high; and they are generally withered at the tip, before the expansion of the flowers. The species was introduced from Italy before 1620; but it is not known exactly whether it is a true native of that country. Indeed, it grows so freely, and produces so many offsets, that it soon becomes naturalised anywhere. The species is quite hardy in British gardens, where it should be planted in October; but the bulbs, which are white, are generally taken up and replanted every three or four years, on account of the great number of offsets which they produce. The leaves appear in January or February; but the flowers, which have no fragrance, do not expand before June.

12.—ORNITHOGALUM CAUDATUM, *Willd.* THE LONG-TAILED ORNITHOGALUM.

ENGRAVING.—*Bot. Mag.* t. 805.

SPECIFIC CHARACTER.—Bulb very large. Leaves broadly linear, acuminate, the old ones withering at the tip, and forming there a long

round tail-like termination. Raceme very long, many-flowered, narrow. Stamens unequal. Stigma simple.

DESCRIPTION, &c.—The flowers of this species are small and greenish, and they are disposed in a very long, densely covered, spike-like raceme. They have a sweet, but rather sickly smell. The leaves are broad and very long, and they wither and shrivel up at the tip, so as to have a round and tail-like appearance, whence the specific name. The flowers continue opening for several months, the upper buds being scarcely formed when the lower flowers have fallen. The species is a native of the Cape, whence it was introduced in 1774, and where it was found growing in the soil lodged in the hollows of old stumps of trees. In England it requires a greenhouse; and as its flowers are not beautiful, it is seldom grown.

13.—ORNITHOGALUM CHLOROLEUCUM. THE GREENISH ORNITHOGALUM.

ENGRAVINGS.—*Bot. Reg.* t. 1853.

SPECIFIC CHARACTER.—Leaves acuminate, channelled, about equal

in length to the scape. Filaments ovate-lanceolate; segments of the perianth unequal. Raceme corymbose, few-flowered.

DESCRIPTION, &c.—This species has only a few, very small, greenish-white flowers. It is a native of Valparaiso, and requires a frame or greenhouse in England. It was introduced in 1834.

14.—ORNITHOGALUM NARBONENSE, *Lin.* THE NARBONNE ORNITHOGALUM.

ENGRAVINGS.—*Bot. Mag.* t. 2510; and our *fig.* 4 in Plate 43.

SPECIFIC CHARACTER.—Leaves linear; raceme elongated; flowers

few and far apart. Filaments equal, alternate segments tridentate. Peduncles spreading widely.

DESCRIPTION, &c.—The flowers are small and widely apart, the peduncles standing out almost at right angles with the stem, though they become erect when the seeds are ripening. The segments of the flower are also far apart, and the alternate ones are slightly three-toothed. The plant is a native of the South of France, and it is quite hardy in British gardens. It was introduced in 1821.

15.—ORNITHOGALUM PYRENAICUM, *Smith*. THE SPIKED ORNITHOGALUM, OR PRUSSIAN ASPARAGUS.

ENGRAVINGS.—Eng. Bot. t. 499; 2d edit. t. 481.

SPECIFIC CHARACTER.—Raceme very long. Filaments all dilated. Flower-stalks equal, spreading, erect, and adpressed in fruit. (*Smith*.)

DESCRIPTION, &c.—This plant, though found in considerable abundance in the neighbourhood of Bath and in other parts of England, is not considered to be a true native. The flowers are greenish, in very narrow segments, and certainly possess no beauty; and the peduncles are so short, that the raceme resembles a spike. The raceme, before the flower-buds are expanded, is eaten; and it is sold in the Bath market under the name of Prussian asparagus. I have eaten it, and I think it tastes not unlike long green asparagus; but why it is called Prussian, I am quite unable to say. It is hardly worth growing for its flowers; but when it is planted in a garden, it is found to succeed best in a calcareous soil. Perhaps it might be worth cultivating in the kitchen-garden as a substitute for asparagus, as its flower-buds do not appear before July or August, when asparagus is not easily to be procured.

16.—ORNITHOGALUM CONICUM, *Jacq*. THE CONICAL ORNITHOGALUM.

ENGRAVING.—Bot. Mag. t. 3538.

SPECIFIC CHARACTER.—Leaves radical, or sheathing the stem, lanceolate, flat, margin white, and delicately fringed. Raceme conical.

Filaments subulate. Bracts membranous, shorter than the peduncles.

Segments of the perianth lanceolate, spreading.

DESCRIPTION, &c.—The flowers are of a pure white and large, so that they are very ornamental. The leaves are short, and sheathing the stem at the base. This species was sent to Glasgow from the Cape of Good Hope in 1835, though it is said to have been introduced previously. It is only half-hardy, and requires to be grown in sandy loam, in a greenhouse.

SECTION III.—FLOWERS IN RACEMES OR CORYMBES. ALTERNATE SEGMENTS BIDENTATE OR EMARGINATE.

17.—ORNITHOGALUM VIRENS, *Lin*. THE GREEN ORNITHOGALUM.

ENGRAVING.—Bot. Reg. t. 814.

SPECIFIC CHARACTER.—Raceme spike-like, many-flowered. Leaves linear-lanceolate, weak, and becoming rounded towards the point, which

is long and tapering. Alternate stamens bidentate; bracts longer than the flowers.

DESCRIPTION, &c.—A very elegant species which is ornamental, notwithstanding the small size and green colour of the flowers. The bracts are very long and spread out beyond the flowers. The leaves are from a foot and a half to two feet long; they are broad at the base, and end in a long tapering point, which bends downwards. It is a native of Delagoa Bay, in South Africa, whence it was introduced in 1823. Like all the Cape species, it is only half-hardy in England; and it is generally grown in a pot, and kept in the greenhouse. The soil should be a light sandy loam; and when the bulb has done flowering, it should be allowed a season of rest.



1 *Primula thymoides* var. *flavescens* 2 *Primula arabicum* 3 *Primula acaulis*
 4 *Primula natanensis* 5 *Primula nutans*

Day & Haage, Lith^{rs} to the Queen

18.—ORNITHOGALUM SULFUREUM, *Röm. et Schultes.* THE SULPHUR-COLOURED ORNITHOGALUM.

SYNONYMES.—*Anthericum sulphureum*, *Waldst. et Kit.*; *A. sulfurum*, *Spreng.*; *Phalangium sulfureum*, *Poir.*

ENGRAVING.—*Bot. Mag.* t. 2623.

SPECIFIC CHARACTER.—Leaves lanceolate-linear, channelled, obtuse, and concave at the apex. Scape simple, racemose; flowers spreading.

DESCRIPTION, &c.—There is nothing very remarkable in this species, except the pale yellow tinge of its flowers, which continue opening for a long time; as the scape gradually increases in length. The scape is sometimes two feet long before all the flowers have expanded, and it continues in flower two months. It is a native of Hungary, whence it was introduced in 1822; and it is quite hardy in British gardens.

19.—ORNITHOGALUM LACTEUM, *Jacq.* THE MILK-WHITE ORNITHOGALUM.

ENGRAVINGS.—*Bot. Mag.* t. 1134; *Bot. Rep.* t. 274; and *Lodd. Bot. Cab.* t. 1159.

SPECIFIC CHARACTER.—Leaves linear-lorate, flat, fleshy, somewhat

stiff, and edged with a small ciliated margin. Scape upright, cylindrical. Raceme densely clothed with flowers. Bracts membranous, longer than the peduncle.

DESCRIPTION, &c.—This is a very beautiful species, from its dense raceme of large white flowers. The scape is generally three feet high, and the raceme sometimes a foot long, being pyramidal at first, but afterwards elongating in a cylindrical manner. The flower is of a pure milk white, of a peculiarly fine rich texture, but it has no fragrance. The species is a native of the Cape, whence it was introduced in 1796. It is more hardy than the other Cape species, and it may be grown in the open border if slightly protected during winter.

20.—ORNITHOGALUM ARABICUM, *Lin.* THE ARABIAN ORNITHOGALUM.

SYNONYMES.—*Lilium alexandrinum maximum*, *Bauh.*; *Jacintho del Paternoster*, *Parkinson*; *Melanomphale*, *Reneaulme*.

ENGRAVINGS.—*Bot. Mag.* t. 728; and our *fig. 2* in Plate 43.

SPECIFIC CHARACTER.—Corymb simple, many-flowered. Bracts

membranous. Perianth campanulate, widely spreading; segments ovate-oblong. Filaments flat, subulate. Germen turbinate spherical, sometimes 6-furrowed, and sometimes twisted. Stigma three-lobedly capitate.

DESCRIPTION, &c.—This very handsome and large-flowered species has been common in British gardens since the time of Parkinson, though it is rather difficult to cultivate, as the bulbs are very apt to rot. It is found in a wild state in Barbary, Turkey, and the Madeiras, besides numerous other places, but always growing in pure sand. It is quite hardy in British gardens if it be kept dry; and thus it may be grown in the open border if the soil is well drained and very sandy. It was called the Arabian bulb by the Turks, when Clusius first brought it from Constantinople to Vienna; and in Italy it was called the Alexandrian lily, or *Jacintho del Paternoster*. It is rarely propagated in this country, and the bulbs, which are common in the seed-shops, are generally imported from Holland. The flower is easily distinguished from all the other kinds by its pistil, the lower part, or ovary, of which, is round, shining, and of a very dark bottle green, almost black.

21.—ORNITHOGALUM NUTANS, *Smith.* THE DROOPING STAR OF BETHLEHEM.

ENGRAVINGS.—*Eng. Bot.* t. 1997; 2nd edit. t. 483; and our *fig. 5* in Plate 43.

SPECIFIC CHARACTER.—Flowers pendulous, unilateral. Filaments

dilated, cloven, converging, campanulate; three of them longer than the others, with their lobes equal to the anthers.

DESCRIPTION, &c.—A very elegant species, from its drooping, milk-white flowers. It is often found wild in England, but seldom far from the habitations of men; whence it is supposed to be an accidental wanderer from some garden. It is easily cultivated, and if planted in any light soil, it will remain, and flower for many years without requiring any further care.

22.—ORNITHOGALUM AUREUM, *Ker.* THE GOLDEN ORNITHOGALUM.

ENGRAVINGS.—Bot. Mag. t. 190; Lodd. Bot. Cab. t. 1183; and our *fig.* 3 in Plate 43.

SPECIFIC CHARACTER.—Leaves ovate-lanceolate, white at the margin. Raceme corymbose. Segments of the perianth somewhat unguiculate.

DESCRIPTION, &c.—This species appears to have all its vital movements slow. It is long in expanding its flowers after the buds are formed; but when they begin to open, they continue in beauty for several months. Even when the flower-stem is cut off and put in water, it will retain its beauty much longer than a similar flower-stem from any other plant. The bulb, when planted, sometimes remains a year in the ground before it begins to grow; and after it has flowered, it will sometimes remain twelve months, or even two years, in a dormant state before it sends up another shoot. It very seldom produces any offsets. It is a native of the Cape, whence it was introduced in 1790; and it is grown in sandy loam, and kept in the greenhouse.

23.—ORNITHOGALUM THYRSOIDES, *Willd.* THE THYRSE-FLOWERED STAR OF BETHLEHEM.

SYNONYMES.—*O. arabicum*, *Red.*; *O. æthiopicum*, *Clus.*

ENGRAVINGS.—Bot. Reg. t. 316; Bot. Mag. t. 1164; and of the variety, Bot. Reg. t. 305, and our *fig.* 1 in Plate 43.

SPECIFIC CHARACTER.—Leaves broad-lanceolate, with a white margin.

Corymb many-flowered, racemose. Perianth campanulate-rotate; segments elliptic-oblong, conniving at the base.

VARIETY.—*O. t. 2 flavescens*, *Ker.* Flowers pale yellow.

DESCRIPTION, &c.—A very beautiful species, with large flowers disposed in a long racemose corymb. This species is easily distinguished from *O. aureum*, by the segments of the perianth overlapping each other, instead of being somewhat apart. The species was introduced in 1605, and the variety in 1757, both being natives of the Cape of Good Hope. Both should be grown in very sandy soil, and kept in a greenhouse, where they will flower freely.

24.—ORNITHOGALUM CONCINNUM, *Salis.* THE NEAT ORNITHOGALUM, OR GIBRALTAR STAR OF BETHLEHEM.

SYNONYMES.—*O. unifolium* β , *Ker*; *O. varium*, var. 2, *Brot.*

ENGRAVING.—Bot. Mag. t. 953.

SPECIFIC CHARACTER.—Flowers disposed in a subcylindrical, many-flowered spike. Flowers erect, sweet. Leaves 2—3, short, cuspidate.

DESCRIPTION, &c.—This very pretty species is found wild near Gibraltar, and it was introduced in 1780 by the late Dr. Fothergill. The flowers, which are very fragrant, are large and milk-white, and they are disposed in a densely-crowded, cylindrical spike. The plant is rather tender, and requires to be kept in a greenhouse.

25.—ORNITHOGALUM UNIFOLIUM, *Ker.* THE ONE-LEAVED STAR OF BETHLEHEM.

SYNONYMES.—*O. varium*, *Brot.*; *Scilla unifolia*, *Lin.*; *Bulbus monophyllus*, *Bauh.*

ENGRAVING.—Bot. Mag. t. 935.

SPECIFIC CHARACTER.—Leaf solitary, sheathing the stem at the base, and ending in a long, round, tail-like point. Flowers few, sessile.

DESCRIPTION, &c.—A very curious little plant, with a single leaf, ending in a long, round, tail-like point, like some of the larger and handsomer species. It grows wild on sterile hills and sterile wilds in Portugal, where scarcely any other plant is found; and it is quite hardy in British gardens, if the situation be sufficiently open. It was introduced in 1805, but it is very seldom seen in collections, and, indeed, is only worth growing for curiosity.

OTHER SPECIES OF ORNITHOGALUM.

O. IXIODES, *Hort. Kew.*

A handsome species, with white flowers, quite hardy in British gardens. It is a native of California, and was introduced in 1796.

O. COLLINUM, *Ræm. et Schultes.*

A hardy species, with white and green flowers, a native of Sicily, whence it was introduced in 1829. It is nearly allied to *O. montanum*, and may possibly be only a variety of that species.

O. TENUIFOLIUM, *Ræm. et Schultes.*

A hardy plant, a native of Sicily, introduced in 1830, with slender leaves, and white and green flowers.

O. EXSCARPUM, *Ten.*

A native of Naples, introduced in 1823, with white and green flowers. All these species, or varieties, have their flowers in umbels, or bunches.

O. COMOSUM, *Willd.*

A native of Austria, introduced in 1596; the flowers are white and green. This, and all the following kinds, have their flowers in long racemes.

O. OVATUM, *Willd.*

A Cape species, with ovate leaves, and white and green flowers. Introduced in 1816.

O. NOTATUM, *Ræm. et Schultes*; *O. MACULATUM*, *Jacq.*

The flowers are yellow, spotted with brown. A Cape plant, introduced in 1825.

O. CILIATUM, *Willd.*

A Cape species, with white flowers, and the leaves fringed with small hairs. Introduced in 1818.

O. CRENULATUM, *Willd.*

A Cape plant, introduced in 1825. Flowers straw-coloured.

O. MACULATUM, *Thunb.*

Flowers snuff-coloured, spotted with dark brown. A native of the Cape, introduced in 1825.

O. SECUNDUM, *Ræm. et Schultes.*

Flowers straw-colour and brown. Introduced from the Cape in 1816.

O. GRAMINIFOLIUM, *Ræm. et Schultes.*

Flowers white and green; leaves grass-like. Introduced from the Cape in 1816.

O. TENELLUM, *Willd.*

Straw-colour and green flowers, and slender leaves. Introduced from the Cape in 1816.

O. PILOSUM, *Willd.*

Flowers white; leaves hairy. Introduced from the Cape in 1816.

O. RUDOLPHI, *Rœm. et Schultes*; *Syn. O. TENUIFOLIUM*, *Redouté*.

A native of the Cape, with white flowers. Introduced in 1812.

O. SUAVEOLENS, *Jacq.*

A Cape species, introduced in 1816, with green and yellow very fragrant flowers.

O. BARBATUM, *Willd.*

A Cape species, with yellow and green slightly-bearded flowers. Introduced in 1795.

O. POLYPHYLLUM, *Willd.*

Flowers green and yellow. A Cape species, with many leaves. Introduced in 1825.

O. RUPESTRE, *Willd.*

A Cape species, with white and green flowers. Introduced in 1795.

O. FUSCATUM, *Willd.*

A Cape species, with brown and green flowers. Introduced in 1825.

O. ODORATUM, *Willd.*; *Andr. Bot. Rep. t. 260.*

A Cape species, with green and yellow fragrant flowers. Introduced in 1795.

O. ELATUM, *Andr. Bot. Rep. t. 528.*

This species is said to be a native of Egypt. It has white flowers, and was introduced in 1804.

O. LONGEBRACTEATUM, *Willd.*; *Lodd. Bot. Cab. t. 1789.*

A Cape species, with green and white flowers, the segments of which are widely separated from each other. The leaves are long and very weak, but the flower-stem is nearly two feet high, with long bracts between the flowers; making the unopened raceme look like a head of barley. It is a free flowerer, sometimes blooming twice a year; once in spring, and again in autumn. It was introduced in 1812, and is common in gardens.

O. SCILLOIDES, *Willd.*

A Cape species, with white and green flowers, very much resembling those of a squill. Introduced in 1795.

O. TRIGYNUM, *Red.*

A species with white and green flowers, and the stigma divided into three distinct lobes. Introduced in 1825.

O. GEMMIFLORUM, *Rœm. et Schultes.*

A half-hardy species from Lima, with pure white flowers. Introduced in 1836.

O. BIFOLIUM, *Lodd. Bot. Cab. t. 1802.*

A delicate little plant, about four or five inches high, with beautiful paper-white flowers. It was introduced from Chili in 1831.

O. ALLIACEUM, *Lodd. Bot. Cab. t. 1818.*

This species, the flowers of which smell strongly of garlic, bears considerable resemblance in other respects to the preceding species. It is a native of the same place, and was introduced at the same time.

O. STACHYOIDES, *Ren.*

The flowers are white, and they are disposed in a close spike. The species is a native of the south of Europe, and it was introduced in 1771.

O. BRACHYSTACHYS, *Willd.*

This species has very short spikes of white flowers. It is a native of the south of Russia, and was introduced in 1821.

O. COARCTATUM, *Willd.*

A Cape species, with white flowers. Introduced in 1804.

O. FLAVISSIMUM, *Jacq.* ; O. TUNICATUM, *Jacq.*

Two Cape species, with yellow flowers.

O. BICOLOR, *Ræm. et Schultes.*

A Cape species, with white and brown flowers. Introduced in 1816.

O. TUBEROSUM, *Ræm. et Schultes.*

A Cape species, with yellow flowers. Introduced in 1787.

O. BERGII, *Ræm. et Schultes.*

A Cape species, with white and green flowers. Introduced in 1816.

GENUS VI.

URGINEA, *Stein.* THE SEA ONION.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth 6-parted, spreading. Stamens six, inserted in the base of the segments ; filaments equal, subulate. Style filiform, straight. Stigma obtuse. Capsule bluntly trigonal, 3-celled, 3-valved. Seeds numerous, ascending, compressed, with a loose, black, spongy testa. (*G. Don.*)

DESCRIPTION, &c.—This genus has been divided from *Scilla* by Steinbel, a German botanist ; and the only plant belonging to it which is known in England, is the Common Squill, which is used in medicine as a cure for coughs. The name of *Urginea* is taken from the Greek name of the plant, which was used in medicine by the Greeks in the time of Theophrastus.

1.—URGINEA MARITIMA, *Stein.* THE MEDICINAL SQUILL, OR SEA ONION.

SYNONYMES.—*Scilla maritima*, *Lin.* ; *Ornithogalum maritimum*, *Tournef.* ; *O. squilla*, *Ker* ; *Scilla vulgaris*, *Bauh.* ; *S. hispanica*, *Clus.*

ENGRAVINGS.—*Bot. Mag.* t. 918 ; and our *fig. 1*, in Plate 44.

SPECIFIC CHARACTER.—Flowers in simple racemes ; pedicels bi-bracteate.

DESCRIPTION, &c.—The most remarkable part of this plant is the bulb, which is nearly as large as a child's head, and which is used in medicine for the dropsy, and diseases of the chest and lungs, acting in the latter case as a slight emetic, to promote expectoration. The flowers are produced in July and August, but the leaves do not appear till the following October or November. It is a native of the shores of the Mediterranean, whence a great quantity of bulbs are imported every year by the druggists. It is rather difficult to cultivate, as the bulbs

are apt to rot unless grown in sand; but it is sure to flower well the first season, and indeed the flowers are frequently produced from the bulb before it is planted at all. When in a favourable situation, the spike of flowers is frequently two feet long, and the leaves, which continue green all winter, are a foot long. It was introduced before 1629.

GENUS VII.

GAGEA, *Salis.* THE GAGEA.

Lin. Syst. HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth inferior, petaloid, 6-parted, persistent, converging below, spreading above. Filaments not dilated at the base. Stigma gaping. Capsule triangular. (*Smith.*)

DESCRIPTION, &c.—This genus was separated by Mr. Salisbury from *Ornithogalum*, on account of the filaments of the stamens differing from those of that genus, which are dilated at the base. The name was given in honour of Sir Thomas Gage, a friend of Mr. Salisbury. The plants are all small, with greenish yellow flowers; and they are all natives of the north of Europe, growing generally in woods, and in a moist sandy soil.

1.—GAGEA FASCICULARIS, *Sal.* THE FASCICLED, OR BRITISH GAGEA.

SYNONYMES.—*G. lutea*, *Ker*; *Ornithogalum sylvaticum*, *Pers.*; *O. luteum*, *Smith* non *Lin.*; *O. pallidum*, *Park.*; *Phalangium bulbosa*, *Hall.*; *Pyrrochiton*, *Ren.*; *Bulbus sylvestris*, *Fuchs.*

ENGRAVINGS.—*Bot. Mag.* t. 1200; *Eng. Bot.* t. 21, 2d. ed. t. 480.

SPECIFIC CHARACTER.—Radical leaves 1 or 2, longer than the angular scape. Bracts longer than the umbel, linear-lanceolate. Segments of the perianth lanceolate, obtuse. (*Smith.*)

DESCRIPTION, &c.—This pretty little flower is sometimes found wild in woods, in both England and Scotland, always growing in a moist, sandy soil. The colour of the flowers is dingy, and as they appear in March and April about the same season as the *Ficaria*, they are often overlooked by the side of that bright, golden-yellow little flower. The *Gagea* always grows in the shade, and it would be a good plant for shrubberies or any other very shady situation where flowers are required in spring.

2.—GAGEA GLAUCA, *Swt.* THE GLAUCOUS-LEAVED GAGEA.

SYNONYME.—*Ornithogalum sylvaticum*, *Schl.* non *Pers.*; *O. luteum*, *Willd.* non *Lin.*

ENGRAVINGS.—*Swt. Brit. Flow. Gard.* t. 177; and our *fig. 4*, in Plate 42.

SPECIFIC CHARACTER.—Root leaf solitary, longer than the scape; bracts lanceolate, short, ciliated. Scape and pedicels sharply triquetrous. Umbel about 4-flowered.

DESCRIPTION, &c.—A pretty little plant, with yellow flowers and glaucous leaves; a native of Switzerland, whence it was introduced in 1825. It is quite hardy, and will grow freely in any light sandy soil.

3.—GAGEA BRACTEOLARIS, *Salis.* THE SHORT-BRACTED GAGEA.

SYNONYMES.—*Ornithogalum luteum* *Lin.*; *O. pratense*, *Pers.*

ENGRAVING.—*Swt. Brit. Flow. Gard.* t. 158.

SPECIFIC CHARACTER.—Root-leaf triquetrous, very long; bracts short, lanceolate, concave, slightly pubescent, the outer one twice the size of the others.

DESCRIPTION, &c.—This is supposed to be the true *Ornithogalum luteum* of Linnæus, though the name has been given alternately to both the preceding species. The present plant has no beauty to recommend it, as the flowers are of a dingy, greenish yellow, and the leaves very narrow. The species is a native of Switzerland, whence it was introduced in 1825.



1. *Argemone maritima* 2. *Delphinium Romanum* 3. *Barnardus scutellarius*
 4. *Myosoton nutans* 5. *Artemisia vulgaris*

4.—*GAGEA MINIMA*, *Rœm. et Schul.* THE LEAST GAGEA.

SYNONYMS.—*G. stellaris*, *Salis.* ; *Ornithogalum minimum*, *Lin.* ;
O. arvense, *Spreng.* ; *O. Sternbergii*, *Henck et Don.*

ENGRAVINGS.—*Swt. Brit. Flow. Gard.* 2d. ser. t. 22 ; and our *fig.*
 1, in Plate 42.

SPECIFIC CHARACTER.—Root-leaf linear ; stem-leaf broadly lanceo-
 late, clasping the stem ; bracts linear. Segments of the perianth
 acute ; umbel sometimes 8-flowered.

DESCRIPTION, &c.—This species is by far the prettiest of the genus, from its bright yellow, star-like flowers. The bulbs are very small, not larger than a pea. It is common in corn-fields in different parts of Europe, and it was introduced in 1825.

OTHER SPECIES OF *GAGEA*.

These are very numerous, but as they have all yellowish green flowers, with one exception, and as they are very seldom seen in British gardens, I have not thought it worth while to describe them separately. The species with pale pink flowers (*G. erubescens*) is described by Rœmur and Schultes, but it does not appear to have been introduced into England. It is said to be a native of Poland.

GENUS VIII.

BARNARDIA, *Lindl.* THE CHINESE SQUILL.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth 6-parted ; segments equal, spreading, stigma simple. Ovary 3-celled ; ovules solitary, erect—ripe fruit not persistent. Stamens 6, filaments dilated at the base. Style subulate ; seen.

DESCRIPTION, &c.—This genus was named by Dr. Lindley in honour of Edward Barnard, Esq., formerly Vice Secretary to the Horticultural Society ; and it was divided from *Ornithogalum* on account of its ovules, or young seeds, of which there is only one standing erect in each cell ; instead of many seeds in each cell, attached to the central axis.

1.—*BARNARDIA SCILLOIDES*, *Lindl.* THE SQUILL-LIKE *BARNARDIA*.

SYNONYME.—*Ornithogalum sinense*, *Lour.*

ENGRAVING.—*Bot. Reg.* t. 1029 ; and our *fig.* 3, in Plate 44.

SPECIFIC CHARACTER.—Scape erect, 9-angled. Leaves linear, channelled. Bulb tunicated.

DESCRIPTION, &c.—This species was sent from China in 1824 ; and it is rather tender in England. The bulb is about the size of a pigeon's egg, and tunicated like that of the hyacinth. The flowers are pink ; and, though rather small, they have an elegant appearance, from the lightness of the raceme in which they are disposed. The leaves are broad and very long. The species is very seldom met with in British gardens. *B. japonicum*, the *Ornithogalum japonicum* of Thunberg, has purple flowers, and is said to have been introduced in 1821. Both species should be grown in pots, and kept in a greenhouse in England ; the soil should be sandy loam, and the bulbs should be allowed a season of rest, by withholding water when the leaves begin to decay.

GENUS IX.

ORITHYIA, *D. Don.* THE ORITHYIA.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth 6-parted, campanulate, deciduous. Stamens 6, erect, nearly equal; filaments dilated at the base, glabrous. Anthers linear, innate, erect. Ovary elongated into a somewhat

triangular style. Stigma obsoletely 3-lobed. Capsule trigonal, 3-celled, many-seeded. Seeds flat, with a membranous testa.

DESCRIPTION, &c.—This plant, when first introduced, was supposed to belong to the genus *Tulipa*, and afterwards to *Ornithogalum* and to *Gagea*; but it has been since formed by Professor Don into a separate genus, which he has called *Orithyia*, a mythological name for the wife of Boreas, because the plant comes from the north of Asia.

1.—ORITHYIA UNIFLORA, *D. Don.* THE SINGLE-FLOWERED ORITHYIA.

SYNONYMES.—*Ornithogalum uniflorum*, *Lin.*; *Gagea uniflora*, *G. Don*; *Tulipa altaica*, *Gebbl.*

ENGRAVINGS.—*Swt. Brit. Flow. Gard.*, 2nd ser. t. 336, and our *fig.* 6, in Plate 42.

SPECIFIC CHARACTER.—Leaves lanceolate, twice as long as the scape; segments of the perianth obtrusely obovate; anthers longer than the filaments.

DESCRIPTION, &c.—This very beautiful little flower looks like a dwarf yellow tulip, and as it flowers in March or April it looks very well in boxes with the Van Thol tulip, and other early spring-flowering bulbs. It is a native of the Altai mountains, and consequently quite hardy in British gardens. It was first introduced in 1781 by Baron Alstroemer, under the name of *Ornithogalum uniflorum*; but it was afterwards lost, till it was re-introduced by a plant sent by Professor Ledebour to Mr. Anderson, of the Chelsea Botanic Gardens, in 1837. There is another species, *O. oxypetala*, introduced in 1833.

GENUS X.

LLOYDIA, *Salis.* MOUNTAIN SPIDER-WORT.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth persistent, of six nearly equal spreading segments, each furnished with a transverse, nectariferous plica at the base. Stamens 6, adhering to the base of the segments of the perianth. Style subclavate; stigma subtrigonal, depressed at the

apex. Capsule triquetrous, 3-celled, and 3-valved at the apex. Seeds numerous, compressed, horizontal, with a brownish membranous margined testa. (*G. Don.*)

DESCRIPTION, &c.—This genus was divided from *Anthericum* by Mr. Salisbury, a botanist, celebrated for making new genera and species; and named by him in honour of one of his friends, a Mr. Lloyd. There are only two species, one of which is a native of Wales, and the other of Siberia.

1.—LLOYDIA SEROTINA, *Salis.* THE LATE-FLOWERING MOUNTAIN SPIDER-WORT.

SYNONYMES.—*Anthericum serotinum*, *Smith*; *Phalangium serotinum*, *Red.*; *Gagea serotina*, *Ker.*

ENGRAVINGS.—*Eng. Bot.* t. 793; 2nd ed. t. 489; *Redouté Lilac.*

t. 270; and our *fig. 7*, in Plate 42, under its old name of *Anthericum serotinum*.

SPECIFIC CHARACTER.—Leaves semi-cylindrical; cauline ones dilated at the base. Flowers mostly solitary. Filaments smooth. (*Smith*).

DESCRIPTION, &c.—This plant has a flower-stem, about six inches high, bearing a single flower, which is white streaked with pink, and which appears in June. It is a native of Wales, but it is only found there on one

of the "highest and most inaccessible rocks of the Snowdon range in Carnarvonshire." When planted in gardens it requires an open situation and a poor soil.

L. STRIATA, *Swt.*; ORNITHOGALUM STRIATUM, *Spreng.*

Is a native of Siberia; introduced in 1787, which differs very little from the preceding species.

GENUS XI.

MYOGALUM, *Link.* THE WILD HYACINTH, OR HARE-BELL.

Lin. Syst. HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth equal, of six segments. Stamens 6, hypogynous; filaments dilated, 3-lobed, the middle lobe bearing the anther. Style thickish, straight. Stigma a little thickened, bluntly trigonal, papillose. Capsule rather fleshy, obsoletely trigonal, 3-celled, 3-valved. Seeds few, horizontal, subglobose, with a dark foveolate (pitted) testa. (*G. Don.*)

DESCRIPTION, &c.—This well-known plant, after being called successively a Hyacinth and Scilla, has been now made into a new genus by Professor Link, under the name of *Myogalum*, which signifies mouse's milk. This strange name is said to allude to the milky juice exuded by the bulb when wounded, and which is poisonous to the field or shrew mice which eat it. It grows wild in most parts of Britain.

1. MYOGALUM NUTANS, *Link.* THE DROOPING MYOGALUM, OR COMMON HARE-BELLS.

SYNONYMES.—*Hyacinthus non-scriptus*, *Lin.*; *Scilla nutans*, *Willd.*
ENGRAVINGS.—*Eng. Bot.* t. 377; 2nd ed. t. 487; and our *fig.* 4, in Plate 44.

SPECIFIC CHARACTER.—Raceme drooping. Flowers pendent, campanulate. Bracts in pairs. Leaves linear, flaccid.

DESCRIPTION, &c.—This well-known flower is said to have derived its English name of Hare-bells from the tremulous motion of its bell-like flowers, which quiver with the slightest breeze; and which may thus indicate the breathing of the hare, which always makes its cover in the tangled brake of the thick woods and coppices, where it is found wild. It bears a strong resemblance to the hyacinth, and hence its second name. It must not, however, be confounded with the Hare-bell, or Air-bell, of the poets (*Campanula rotundifolia*), the elastic stalk of which rises again when lightly trodden on, and which thus offers an elegant simile for the airy step of a young girl. Every one who reads this, and who recollects Scott's beautiful description of Ellen, in the Lady of the Lake—

"A foot more light, a step more true,
Ne'er from the heath-flower dash'd the dew;
E'en the slight hare-bell raised its head
Elastic from her airy tread,"

will perceive that the *Hyacinthus non-scriptus* could not be the flower alluded to; as its succulent stem, when trodden upon, would be too much crushed to rise again. This plant is quite hardy, and, when grown in gardens, only requires to be kept in the shade.

GENUS XII.

SCILLA, *Lin.* THE SQUILL.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth 6-parted, spreading, equal, deciduous. Stamens equal, sub-perigynous. Style filiform, exserted. Capsule roundish, 4, or many-seeded; seeds somewhat globose.

DESCRIPTION, &c.—A very extensive genus, which may be divided into two very distinct sections: viz.—those with campanulate, or bell-shaped flowers; and those, the flowers of which are rotate, or round and spreading. The derivation of the name *Scilla* has not been exactly determined; but it is supposed to allude to the emetic properties of some of the plants. The species are all ornamental; and they are all, or nearly all, quite hardy in British gardens. The differences between this genus and *Hyacinthus* are very slight; and many plants are placed sometimes in one genus, and sometimes in the other, by botanists.

SECTION I.—FLOWERS CAMPANULATE.

1.—SCILLA CERNUA, *Link et Hoff.* THE DROOPING SQUILL.

SYNONYMES.—*Hyacinthus cernuus*, *Lin.*; *H. pratense*, *Lam.*; *Scilla festalis*, *Salis.* SPECIFIC CHARACTER.—Raceme bending. Flowers nearly secund. Leaves linear-lanceolate, erect.

ENGRAVING.—Bot. Mag. t. 1461.

DESCRIPTION, &c.—This plant, at first sight, so closely resembles that now called *Myogalum*, the old *Hyacinthus non-scriptus*, as scarcely to be distinguished from it. The leaves are, however, stiffer, and more erect; and the raceme of flowers longer and more bent, with a few detached flowers down the scape: the flowers, also, are more tubular, and somewhat swelled out at the base. The greatest difference, however, in a botanical point of view, is in the filaments of the stamens, which in *Myogalum* are dilated and attached to the divisions of the perianth, for nearly half their length, the anthers being hidden in the cup of the flower; while in *Scilla cernua* the filaments are thread-like, and only attached to the perianth at the base, with the anthers protruding beyond the flower. The scape, or flower-stem, is also somewhat kneed in *Myogalum*, with the flowers all on the same side; but it is in a regular curve with some flowers on both sides in *Scilla cernua*. This last-named plant is a native of Spain, but it is very common in British gardens; and though the exact year of its introduction is not known, it is probable that it has been in cultivation in England for more than two centuries. The flowers are generally pink, or pale-purple. It is quite hardy, and when once planted, it may be left in the ground for several years without taking up.

2.—SCILLA PATULA, *Lam.* THE SPREADING SCILLA, OR SPANISH HARE-BELL.

SYNONYMES.—*S. hyacinthoides*, *Jacq.*; *S. Jacquini*, *Gmel.*; *S. campanulata*, *Ker.*; *Hyacinthus hispanicus*, *Clus.*; *H. hispanicus major*, *Park.* SPECIFIC CHARACTER.—Leaves linear-lorate, somewhat channelled and concave, terminating in an acute point. Raceme erect, many-flowered. Bracts longer than the pedicels, dilated at the base.

ENGRAVING.—Bot. Mag. t. 1102.

DESCRIPTION, &c.—This very handsome species is easily distinguished from the preceding one, by the straightness of the raceme, and the flowers growing all round it, instead of being all on one side. The flowers are

sometimes of a dark reddish purple, sometimes pink, and sometimes white. The species is a native of Spain and Portugal, whence it was introduced before the time of Parkinson (1629), and it has been common in British gardens ever since. It is quite hardy, and requires no care after the first planting.

3.—SCILLA CAMPANULATA, Willd. THE CAMPANULATE SCILLA, OR SPANISH SQUILL.

ENGRAVINGS.—Bot. Mag. t. 128; and our *fig. 1* in Plate 45, under the erroneous name of *Scilla flexuosa*.

Segments of the perianth divided to the base; pedicels and bracts longer than the perianth. Leaves lanceolate.

SPECIFIC CHARACTER.—Raceme erect, many-flowered, nearly conical.

DESCRIPTION, &c.—This is one of the commonest kinds of Scilla, and one of the handsomest. It is very showy and very hardy; and, as might be expected from any plant possessing these qualities, it is very common in English gardens, in which it has been cultivated since the time of Parkinson. It is a native of Spain. Its flowers are blue in the species, but there are pink and white varieties; and as they are produced in great abundance, they have a very lively and elegant effect. No care is required in the culture of this species after its first planting.

4.—SCILLA CORYMBOSA, Spreng. THE CORYMB-FLOWERED SCILLA, OR CAPE HYACINTH.

SYNONYMS.—*Massonia corymbosa*, Ker; *Hyacinthus corymbosus*, Lin.

SPECIFIC CHARACTER.—Leaves linear, very narrow, folded, with a convex projection on the under side. Flowers erect, and disposed in a corymbose head.

ENGRAVING.—Bot. Mag. t. 991.

DESCRIPTION, &c.—This little plant, which is now very seldom met with, has but little beauty to recommend it. The flowers are pink, without fragrance, and they form a stiff, erect head in the midst of the narrow leaves. The species is a native of the Cape of Good Hope, whence it was introduced in 1793. It requires a greenhouse in England. The whole is not above six inches high.

5.—SCILLA BRACHYPHYLLA, Ram. et Schultes. THE ROOT-SHEATHED CAPE HYACINTH.

SYNONYME.—*S. brevifolia*, Ker.

ENGRAVING.—Bot. Mag. t. 1468.

together with the scape, in a large fleshy bract rising from the bulb. Flowers drooping, disposed in a short, erect raceme.

SPECIFIC CHARACTER.—Leaves narrow, roundish, fleshy; sheathed

DESCRIPTION, &c.—A curious little plant, with a raceme of pretty pink flowers, which, together with the leaves, appear to rise out of a spathe-like bract, almost large enough to shroud the whole. The species is a native of the Cape, whence it was introduced in 1811. It requires protection in England, and is a pretty plant for growing in a pot, in a window, or balcony.

SECTION II.—FLOWERS ROTATE, OR SUB-CAMPANULATE.

6.—SCILLA SIBIRICA, And. THE SIBERIAN SQUILL.

SYNONYMS.—*S. amœna* β *sibirica*, Ker.

ENGRAVINGS.—Bot. Reg. t. 365; Bot. Mag. t. 1025; and our *fig. 5*, in Plate 45.

SPECIFIC CHARACTER.—Leaves four, erect, oblong-lorate, slightly concave, with a somewhat glandular point. Scapes numerous, 1—4-flowered.

DESCRIPTION, &c.—This is the most beautiful of all the Scillas, and no description or painting can give an idea of the brilliancy and intensity of it. It flowers in April, the flowers rising out of the ground before the leaves. It is quite hardy, and may be suffered to remain in the ground for several years without taking up. This species and its allies, *S. amœnula*, and *S. amœna*, *S. bifolia*, and its varieties, and *S. campanulata*, I have

now seen flower every spring for the last ten years in our little garden at Bayswater, without the slightest attention being paid to them, farther than restraining the different gardeners we have had from cutting away their leaves. It is in vain, generally speaking, to expostulate, or to explain how impossible it is for the sap, which is to deposit matter to form the new bulb, to be matured without the aid of the leaves; the passion for neatness prevails, and nothing short of a positive command will avail. Of course, master gardeners, many of whom are excellent botanists and well acquainted with vegetable physiology, know better. The annual destruction of the leaves as soon as the plant has done flowering, is the principal reason why *Scillas* and other bulbs so soon degenerate in town gardens, as very few of them are ever injured by the smoke.

7.—*SCILLA PRÆCOX*, Willd. THE EARLY SQUILL.

ENGRAVING.—Swt. Brit. Flow. Gard. 2d. ser. t. 141.

SPECIFIC CHARACTER.—Leaves broad-lanceolate. Scape angular, striated; raceme sub-corymbose. Pedicels much longer than the flowers; bracts obscure.

DESCRIPTION, &c.—The flowers of this lovely little plant are of the same brilliant, transparent blue as those of *S. sibirica*. It is a native of Germany, whence it was introduced in 1790. It is not, however, common in gardens, and I never saw it but once, when Mr. Ingpen of Chelsea very kindly sent me some of the flowers.

8.—*SCILLA AMŒNULA*, Otto. THE FEW-FLOWERED SQUILL.

SYNONYMES.—*S. azurea*, Gold.; *S. amœna*, Red.; *S. cernea*, Bieb.

ENGRAVINGS.—Bot. Mag. t. 2408; and our fig. 9, in Plate 45.

SPECIFIC CHARACTER.—Scape 5-angled; raceme three-flowered. Peduncle naked. Perianth somewhat campanulate, spreading. Leaves very short, lanceolate.

DESCRIPTION, &c.—This very pretty little plant has spreading, star-like, blue flowers, which are somewhat campanulate in the bud. Three or four flower-stalks (which are angular) rise from each bulb, bearing each from one to three flowers. The bulb is covered with a dark brown skin, and there are three short broad leaves. This species is a native of the north of Europe, and it is often confounded with *S. sibirica*, which it closely resembles. It was introduced from the Berlin garden in 1822. It flowers in March, and the flowers rise through the ground before the leaves.

9.—*SCILLA AMŒNA*, Lin. THE PLEASING, OR BYZANTINE SQUILL.

SYNONYMES.—*Hyacinthus stellaris*, Bauh.; the starry Jacinth of Constantinople.

ENGRAVING.—Bot. Mag. t. 341.

SPECIFIC CHARACTER.—Leaves lanceolate, much shorter than the scape. Perianth stellate. Flowers alternate.

DESCRIPTION, &c.—This species is very distinct from the last; the narrow segments of its star-like flowers, its long scape, and the disposition of the flowers, which are fixed at regular distances alternately on both sides of the flower-stem, making the difference perceptible to every observer. This species is a native of the Levant, and it was brought from Constantinople in 1600, by Edward Lord Zouch, then a great patron of everything connected with flowers. It is hardy, and requires no particular care. It flowers in May, and ripens abundance of seeds.

10.—*SCILLA PUMILA*, Brot. THE DWARF SQUILL.

SYNONYME.—*S. monophyllos*, Link.

ENGRAVING.—Bot. Mag. t. 3023.

SPECIFIC CHARACTER.—Perianth spreading, segments obovate. Leaf solitary, sheathing the scape. Raceme few-flowered; bracts very short.

DESCRIPTION, &c.—A very pretty little plant, with bright lilac flowers; a native of Portugal, whence it was introduced in 1819. The whole plant is not above six inches high, and thus it is well adapted for pots or rock-work. There is a variety with white flowers.



Delphinium ajacis 1. *Delphinium consolida* 2. *Delphinium elatum* 3. *Delphinium ajacis* 4. *Delphinium consolida* 5. *Delphinium elatum* 6. *Delphinium consolida* 7. *Delphinium consolida* 8. *Delphinium consolida* 9. *Delphinium consolida*

11.—*SCILLA BIFOLIA*, Willd. THE TWO-LEAVED SQUILL.

ENGRAVINGS.—Eng. Bot. t. 24 ; 2d edit. 485 ; Bot. Mag. t. 746 ; disposed in a corymbose, lax raceme.
and our *figs.* 6 and 7 in Plate 45. VARIETIES.—S. b. 2 alba, Willd. Flowers white. S. b. 3 rubra, Ker ; S. rosea, Leh. ; S. carnea Swt. Flowers pink.

DESCRIPTION, &c.—A very pretty plant, whether white, blue, or pink. The species has blue flowers, and the white and pink are varieties. The blue is sometimes found wild in England, but it is rather a doubtful native ; both the species and varieties are, however, common in the neighbourhood of Paris, and in other parts of Europe. It is of the easiest culture, and when once planted it will flower freely every spring, without any further care.

12.—*SCILLA VILLOSA*, Desf. THE HAIRY AFRICAN SQUILL.

ENGRAVING.—Bot. Mag. t. 3211.

SPECIFIC CHARACTER.—Leaves lanceolate, hairy. Raceme corymbose ; bracts lanceolate, equal to the pedicels.

DESCRIPTION, &c.—A dwarf species, with a corymb of white flowers ; a native of Barbary, and only half-hardy in British gardens. It is not worth the trouble of cultivation, as there are so many more beautiful species which are quite hardy.

13.—*SCILLA VERNA*, Willd. THE SPRING SCILLA.

ENGRAVINGS.—Eng. Bot. t. 23 ; 2d edit. t. 484 ; and our *fig.* 8, in Plate 45. SPECIFIC CHARACTER.—Leaves linear, channelled, numerous. Raceme corymbose, few-flowered. Bracts lanceolate, obtuse.

DESCRIPTION, &c.—The flowers of the species are bluish, but there are pink and white varieties, all of which are fragrant. They are all natives of Britain, and are found in great abundance on the North and Western coasts. They are quite hardy, but grow best in moist, sandy soil.

14.—*SCILLA ITALICA*, Lin. THE ITALIAN SQUILL.

ENGRAVINGS.—Bot. Mag. t. 663 ; and our *fig.* 2, in Plate 45.

SPECIFIC CHARACTER.—Leaves linear-obtuse, channelled, numerous. Raceme conical, crowded. Bracts twin, nearly equal to the pedicels.

DESCRIPTION, &c.—A very pretty plant, with a conical raceme of purplish stellate flowers ; a native of the Italian and Swiss Alps, which grows on the rocks, in shady places, in great profusion. The flowers are fragrant, and they appear in March. This species seldom thrives in small gardens, as it requires an open and airy, and yet a sheltered situation ; and a poor, but dry soil.

15.—*SCILLA AUTUMNALIS*, Willd. THE AUTUMNAL SQUILL.

ENGRAVINGS.—Eng. Bot. t. 78 ; 2d ed. t. 486 ; and our *fig.* 4, in Plate 45. SPECIFIC CHARACTER.—Leaves linear, numerous. Bracts obsolete. Pedicels ascending, the length of the flowers.

DESCRIPTION, &c.—An elegant little species, common on rocks, and sandy places in every part of Britain. It flowers in September.

16.—*SCILLA PRATENSIS*, Waldst. et Kit. THE MEADOW OR HUNGARIAN SQUILL.

ENGRAVING.—Bot. Reg. for 1839, t. 63.

SPECIFIC CHARACTER.—Leaves ensiform, numerous. Raceme elongated and spike-like. Bracts very small and scarious. Pedicels ascending, longer than the flower.

DESCRIPTION, &c.—This species bears considerable resemblance to *S. autumnalis*, both in the form and disposition of the flowers and in their number. It should be grown in a sandy soil, where it can be kept very moist while it is growing, and dry during its season of rest. It was introduced in 1827. It flowers in June, after those of the spring Scillas and before the autumnal ones, and it is very suitable for rockwork.

17.—SCILLA PERUVIANA, *Lin.* THE PERUVIAN SQUILL.

SYNONYME.—*S. præbracteata*, *Hort.*
 ENGRAVING.—*Bot. Mag.* t. 749.

SPECIFIC CHARACTER.—Leaves broad-linear, larger than the scape.
 Raceme corymbose, crowded. Bracts longer than the pedicels.

DESCRIPTION, &c.—This well-known splendid plant, though called *Peruviana*, is in fact a native of Italy, Barbary, Portugal, and Spain, from which latter country it was sent to Clusius, who gave it the name of the Peruvian Hyacinth; a mistake which probably originated from the circumstance of so many plants being, about that period, received in Spain from Peru. It was introduced into England in 1607; and it has ever since been a favourite in gardens. It is however rather difficult to cultivate, and it will not bear the smoky atmosphere of large towns. It should be grown in an open, airy situation, in a light sandy soil, and allowed plenty of water.

18.—SCILLA CUPANIANA, *Gussone.* CUPANI'S SCILLA.

SYNONYMES.—*S. fistulosa*, *Raf.*; *Ornithogalum cæruleum*, *Raf.*
Car.; *Hyacinthus stellatus*, *Cupani.*
 ENGRAVING.—*Bot. Reg.* t. 1878.

SPECIFIC CHARACTER.—Leaves lanceolate, flat, ciliated with very short and dense hairs. Raceme corymbose, lax. Bracts about half the length of the pedicels.

DESCRIPTION, &c.—The flowers of this species have a singular appearance, from the perianth being of a dull purple, and the pistil a bright blue. The species is a native of Sicily, whence it was introduced in 1826. It is hardy in British gardens, where it flowers in June; but it is very rarely to be met with, and indeed scarcely deserves cultivation.

19.—SCILLA LUSITANICA, *Lin.* THE PORTUGUESE SQUILL.

ENGRAVING.—*Bot. Mag.* t. 1999.

SPECIFIC CHARACTER.—Leaves broad-lanceolate, undulated. Raceme spike-like, pedicels very short.

DESCRIPTION, &c.—This species is distinguished by the thickness of the flower-scape, and small size of the numerous pale blue flowers. The leaves are very broad, and of a yellowish green. The species is a native of Spain and Portugal, whence it was introduced in 1777. It should be treated as a greenhouse plant, but it is seldom seen in collections.

20.—SCILLA HYACINTHOIDES, *Lin.* THE HYACINTH-LIKE SCILLA.

ENGRAVING.—*Bot. Mag.* t. 1140.

SPECIFIC CHARACTER.—Leaves broad-lanceolate, undulated. Raceme erect, diffuse, many-flowered. Pedicels many times longer than the

flowers, spreading angularly, remote. Segments of the perianth rotate.
 Bracts small, decurrent, and distinct from the flowers.

DESCRIPTION, &c.—A curious plant, with dark purplish or lead-coloured flowers, which it is very shy of producing. Instances are indeed recorded of plants having been kept for twenty or thirty years in an apparently healthy state before they flowered. The species is a native of Madeira, whence it was introduced in 1777.

21.—SCILLA PLUMBEA, *Lindl.* THE LEAD-COLOURED SCILLA.

ENGRAVING.—*Bot. Reg.* t. 1355.

SPECIFIC CHARACTER.—Leaves lorate, flat, recurved. Scape erect,

round, few-flowered. Bracts very small, attenuated. Segments of the perianth ovate, very much recurved.

DESCRIPTION, &c.—This plant is sometimes confounded with the preceding species, but it differs in many respects. It is a native of the Cape of Good Hope, whence it was introduced in 1813.

22.—SCILLA ESCULENTA, *Ker.* THE EATABLE SQUILL.

SYNONYMES.—*Phalangium esculentum*, *Frazer*; Missouri Squill, or Quamash, *Ker*, in Bot. Mag.
 ENGRAVINGS.—Bot. Mag. t. 1574; and our *fig.* 3, in Plate 45.

SPECIFIC CHARACTER.—Leaves lorate-lanceolate, erect, diverging, channelled. Perianth regular, stellate. Raceme many-flowered, spike-like. Bracts attenuated; about equal in length to the pedicel.

DESCRIPTION, &c.—Some interest attaches to this plant from its having been formerly mistaken for the Quamash or Indian Bread of the banks of the Missouri, which is the bulb of the *Camassia esculenta* (see p. 188). The bulb of the present plant is eatable; and hence, probably, arose the confusion. *Scilla esculenta* is a native of North America, whence it was introduced in 1811, by Mr. Frazer, a botanical collector, who supposed it to be the plant described by Pursh, that is, the *Camassia*.

OTHER KINDS OF SCILLA.

S. BREVIFOLIA, *Ræm. et Schultes*; HYACINTHUS BREVIFOLIUS, *Thunb.*

A Cape species, introduced in 1822, with white flowers, which appear in January.

S. ODORATA, *Ræm. et Schultes*.

A Portuguese species, with very fragrant blue flowers; introduced in 1818.

S. MAURITANICA, *Ræm. et Schultes*.

An African species, with blue flowers; introduced in 1819.

S. LILIO-HYACINTHUS, *Willd.*

A native of the south of Europe, with blue flowers; introduced in 1597.

S. UMBELLATA, *Spreng.*

A native of the Pyrenees, with blue flowers; introduced in 1817.

S. INTERMEDIA, *Ræm. et Schultes*.

A native of Sicily, with blue flowers; introduced in 1829.

S. OBTUSIFOLIA, *Ræm. et Schultes*.

A native of Barbary, with violet-coloured flowers; introduced in 1828.

S. UNDULATA, *Ræm. et Schultes*.

A native of the south of Europe, with lilac flowers.

S. LINGULATA, *Ræm. et Schultes*.

A native of Barbary, with blue flowers.

S. VINCENTINA, *Ræm. et Schultes*.

A native of Portugal, with spreading blue flowers; introduced in 1827.

GENUS XIII.

HYACINTHUS, *Lin.* THE HYACINTH.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth tubular, 6-cleft, segments reflexed. | stigma obtuse. Capsule ovately-trigonal, 3-celled. Seeds many, Stamens six, inserted in the middle of the tube. Style awl-shaped; | roundish.

DESCRIPTION, &c.—Everybody knows a hyacinth; but many of my readers will be surprised to hear that there are only three species in the genus, and that two of these are rarely seen. The fact is, that all the almost innumerable kinds of hyacinth common in our gardens are varieties of one species, *Hyacinthus orientalis*; and as these vary very much from seed, and may be readily crossed with each other, no limit can be given to the number and variety of hyacinths that may be raised.

1.—HYACINTHUS ORIENTALIS, *Lin.* THE COMMON, OR EASTERN HYACINTH.

ENGRAVINGS.—Bot. Mag. t. 937; Bot. Reg. t. 995; and our *figs.* | SPECIFIC CHARACTER.—Perianth funnel-shaped, half-cleft, segments spreading; tube ventricose at the base.

DESCRIPTION, &c.—The hyacinth in its wild state is generally blue, but sometimes pink; and it grows in great abundance in the neighbourhood of Aleppo and Bagdad. It has also been found occasionally in France and Barbary, but in both cases it was probably only a garden flower, which had sown itself accidentally. In our Plate 46, *fig.* 3, is the single hyacinth in its wild state; and *figs.* 4, 5, and 6, which are cultivated varieties of it, have been chosen, not for their beauty, but to show how widely the cultivated flower, in some cases, differs from the wild one. The garden hyacinth was first brought to England before 1596, as Gerard speaks of it, as of a well-known flower, without saying when it was introduced; and he describes several double varieties of the original flower, which he says, simply, was first brought from the East. The varieties known to Gerard were all blue, white, or pink; and only these colours were known in hyacinths till about the commencement of the present century, when a few pale yellow, or rather lemon-coloured, kinds were raised from seed. These have since been improved by cultivation and hybridizing; and the hyacinth shown in *fig.* 5, Plate 46 (raised by Mr. Corsten, a well-known florist), is a specimen of the change in colour that has been produced. The shape of this flower is not, however, considered so good as that of *fig.* 5; and it must be observed that all bright-coloured hyacinths are considered improved by having a dark centre or eye. A great deal has been written on the culture of the hyacinth, but the following account of the Dutch mode of culture (which was translated for and published in the Gardeners' Magazine), I have been told by several experienced florists, contains everything that is necessary to be known on the subject.

“The hyacinth likes a very sandy, well-prepared, fine, and light soil, without any appearance of stones or gravel, and which consequently looks exactly as if it had been passed through a fine sieve. All kinds of loam or stiff soil, which bind so closely together that, when dry, the wind cannot separate their particles as it does those of sand, must be avoided. No kind of red, bluish, or blackish soil will produce perfect hyacinths; but one is considered particularly good, which is light grey, and which resembles fine, very sandy, and light garden mould. This sand, which is very light of itself, is made still lighter by the addition of the thin sand of the Dutch



1. *Hyacinthus amethystinus* 2. *Hyacinthus sinensis* 3. *Hyacinthus orientalis* 4. *Hyacinthus orientalis* (the Minor flower, purple) 5. *Hyacinthus orientalis* (the Major flower, yellow)

downs, which is of a pale yellow colour, very fine, and contains neither stones nor gravel; and as this sand constitutes the principal part of the mixture of the soil, if nature denies us a supply of it at home, we must search for it in other places, or try to prepare one like it. Various soils have been used for this purpose, but the preference is given to a pale yellow river-sand, to which is added a third of leaf-mould. The only manure used is cow-dung, which must be quite pure, and not mixed with straw, or any other substance.

In preparing the beds, particular attention must be paid to two rules:—1. That, for the space of four years previously to planting, neither horse-dung, nor any other dung of a heating quality, must be mixed with the soil. 2. That hyacinths must not be grown in the same soil oftener than once every four years. The latter rule must be particularly attended to; because, if planted a year earlier, the decayed remains of the old bulbs would communicate the rot or other diseases to the newly-planted bulbs. In Holland, a bed is planted the first year with hyacinths, the second with tulips, the third with *Polyanthus Narcissus*; and it would be desirable if something similar were planted even the fourth year. The bed, however, is generally prepared for hyacinths the fourth season, as follows:—Between December and February the ground is dug five or six feet deep; and, when too much water is apprehended, a drain is dug all round the bed, and filled with wood or stones, and then covered up. In March every square yard is manured with four hand-barrowfuls of pure cow-dung (without straw), dug in a foot deep. During the summer, vegetables or annuals are grown on the bed, which do not exhaust the soil too much. The following autumn (therefore the fifth), the soil is dug one and a half or two inches deep, taking care to let the manure, which was put on the ground in spring, remain a foot deep in the earth. When a proper drain is not made, a trench is used, two feet wide, and one and a half feet broad, which is left open, so that the water collected in it may be taken out.

When the above operation is performed, the bulbs must be prepared for planting in the beginning of October. This preparation consists in examining whether the bulbs are perfectly healthy; because, if they are unhealthy, they not only will not flower, but will infect those near them. It is necessary, therefore, in the first place, to be acquainted with the diseases they are liable to, which are:—*First*, the white rotz: *Second*, the black rotz: *Third*, the rot: *Fourth*, mould: *Fifth*, consumption or wasting: *Sixth*, shrinking: and *Seventh*, excess of offsets.

First. The white rotz is known by a resin which generally oozes from the upper part of the bulb, and also from the side, and which, about this time of the year (October), is of a hard consistency, not unlike the resin that flows from trees. The white rotz also assumes the appearance of a white slimy substance, and has a very unpleasant smell, which is particularly evident when the bulb is cut open; and bulbs in this state should be thrown away without hesitation. The danger attending this disease will be treated of in another place.

Second. The black rotz is more difficult to know than the white rotz; because, as soon as the bulb is taken out of the ground and kept dry, the rotz dries up also. The stool or plate of the bulb (that is, the point from which the roots proceed downwards) appears as if eaten out on the side, and the scales at that part have dry black edges. When, therefore, there is but little of this disease in the bulb, it is very difficult to be ascertained; and it must be particularly looked for, when the bulbs are about to be put in the ground, as it will not only destroy the infected bulb, but all those that are healthy near it. A bulb so attacked must therefore be thrown away.

Third. The rot is easily known when it is once fairly begun. It is generally found in the scales near the heart of the bulb; and, to discover it, the point of the bulb should be cut off horizontally with a sharp knife. If the bulb is affected with this disease, a yellowish or brownish stripe will be seen between the scales; and all the

part thus discoloured should be cut away, till it is completely eradicated ; but when it reaches farther than the half of the bulb, it is past remedy, and the bulb must be thrown away. Great care, however, must be taken in cutting off the point of the bulb, not to injure the germ which has formed inside it ; and when this is likely to be the case, the cuts ought to be made, not horizontally, but in a slanting direction towards the point of the bulb, so as not to run any risk of cutting off the extremity of the incipient flower. It frequently happens that these stripes are but very little distinguished from the colour of the healthy part of the bulb ; and, therefore, great attention is necessary, that they may not be overlooked. When two, three, or more stripes are seen round the heart of the bulb, it is generally past recovery ; but if they are found far from the heart, and consequently near the outer scales, they can all be cut away, with the exception of such as have reached the root-plate and attacked it. Above all, care must be taken that neither the germ nor the root-plate of the bulb is injured ; but all parts round them may be cut away.

Fourth. The mould is only found on the outer or inner part of the first four scales ; and it is not considered a dangerous disease, but must be removed by taking off those scales that are attacked.

Fifth. Consumption or wasting is indicated by never-varying yellowish or brownish spots in the scales near the heart. This disease is not exactly a dangerous one, but is rather an indication of a weak flower, which is very frequently the case with several sorts ; for example, the Grand Vainqueur, Staaten General, &c. These spots might go through the whole bulb without being injurious, therefore they are not to be compared with the stripes of the disease called the rot.

Sixth. Shrinking is indicated by spots similar to those above mentioned, only they are much larger. This disease generally draws the whole bulb in a slanting direction, and a part of it appears as if eaten out. The bulb loses its usual round form. This is similar to the disease called wasting, but in a greater degree, and is with great difficulty got rid of ; therefore, if you wish to have good strong plants, it is better to throw those away that are attacked with this disease.

Seventh. Excess of offsets only takes place in bulbs capable of producing flowers. The offsets come out at the sides, or through the stool or plate, and the parent bulb becomes divided into a number of young ones. When this is the case, it is left exactly as it is, and is planted like the others ; and although it will not flower, it will produce a great many young bulbs.

These are the principal characteristics of the diseases to which bulbs are liable. When you wish to increase them, great care must be taken while they are out of the ground not to pull off the small white offsets that have sprung out at the sides and from the stool of the bulb ; because this treatment, even if it does not injure the parent bulb, is sure to destroy the young ones, which would not be the case if they were allowed to remain on another year. When the young ones are older, and are become strong, they will have stools of their own, from which roots will proceed ; and when in this state, they may without danger be separated from the parent bulb.

When the bulbs have been all carefully examined, they are planted thirty-six hours afterwards at the latest ; because, as they have been probably very much cut, a longer delay would cause a reappearance of the mould, which would terminate in destroying them."

A YEAR'S CULTURE OF THE HYACINTH, AS PRACTISED AT HAARLEM IN HOLLAND, BEGINNING
WITH THE SEASON FOR PLANTING, IN OCTOBER.

October.—The Dutch method of planting bulbs is of all others the best. The whole piece of ground allotted for them is divided into beds. The first bed is dug from three to five inches deep (according to the strength or kind of bulb to be planted), and the quantity of earth that is dug out is conveyed to the further side of the last bed in the piece of ground. The bed which has had this earth taken from it is equally raked, and divided into rows, when the bulbs are placed gently upon it. The second bed is then dug out in like manner, and the earth which is taken from it is used for covering the bulbs in the first bed; and in this manner they proceed to the last bed, which is covered with the earth of the first bed, which was deposited there. When there is but one bed to be planted, it is advisable, if not thought too much trouble, to put a layer of sand where the bulbs are to be placed, or only a little on the very spot on which each bulb is to be placed. With regard to the space between each bulb, eight of those that are capable of producing flowers are planted on the extent of three and a half feet; but they must always be put nearer or further apart, according to the strength of the bulbs. Very small bulbs, or those not capable of producing flowers, are not planted singly, but are sown in rows, as it is of no consequence whether the sides or points of these bulbs are next the ground. Those kinds which grow high and strong should, in general, be planted the deepest, that is, five or six inches deep. Those kinds that grow low should not be planted so deep; but those kinds which are liable to produce an excess of offsets must be planted the deepest of all, viz., six inches. Among the latter may be mentioned in particular l'Amie du Cœur. It must also be particularly observed, that when the soil is stiff, the bulbs must not be planted so deep as when the soil is light. It can be best ascertained during the warm days in spring, if the bulbs have not been planted deep enough; because when that is the case, the leaves begin to flag; while those that are too deep in the soil assume a different appearance. They then become rather smaller than larger, and have a withered appearance. Those of a very small sort are generally not planted so deep as the other kinds; such as Duchesse de Parma, Marquis de la Coste, Bonaparte, Roi Sphéros, Kaiser Alexandre, &c. The weather should be dry during the time of planting. If there is a continuance of rain after a space of fourteen days, it is very injurious; because, as the germ prevents the bulb from being completely closed, the water finds its way in, and causes the bulb to rot. Forced hyacinths should be planted in a very light soil, because it makes them flower sooner; and those bulbs which are difficult to flower, or which are apt to flower late, should have a light dry soil. Care must be taken, as already observed, that bulbs are not planted again on the same bed for the space of four years; and every year a change of soil must be given either lighter or stiffer. It must, however, be remembered that all hyacinths with white flowers do not generally do so well in a stiff soil as those with blue flowers, and all those kinds which are apt to have the rot must very seldom be planted in a stiff soil. Yet bulbs which are grown in a stiff soil sometimes, to our great astonishment, produce beautiful flowers; but they generally perish before the next time of planting; and, in general, when you have been so unfortunate as to plant in too stiff a soil (which may be known by the luxuriance of the leaves), it is better to take the bulbs up before they have done growing, as they would be sure to become wrinkled, and perhaps mouldy, afterwards.

November and December.—The principal operations for hyacinths during the month of October may be continued during November, if not finished in the former months. The weeds, also, must be all taken out from

the beds in which the bulbs are planted ; and the beds must then be nicely raked, and made ready for covering, in case of frost in December. The covering is made of reeds, and as the covering which was used for the former year is generally put under the new one, the whole becomes several inches thick. The covering is fastened down on the sides by means of pegs. When there is a continuance of rain, the trenches are filled with water, which must immediately be removed.

January and February.—During the months of January and February, the ground in which hyacinths are to be planted the following autumn must be deeply dug ; and where the beds are planted, the water must be carefully removed from the trenches.

March.—When frost is no longer apprehended, the covering of the beds may be taken off ; but great care must be taken not to remove it too soon, that it may not be necessary to put it on again. After all the beds have been carefully cleaned and raked, they are watered with a mixture of cow-dung and water, which forms a slight crust on the surface, and prevents the wind from causing any irregularity on the beds. That piece of ground, which, in the previous months, had been deeply dug and intended for hyacinths the next year, should now be manured as above described, with four wheelbarrowfuls of pure cow-dung to the square yard, which is dug in one foot deep.

April.—Time of flowering.—At this time the plants should be carefully examined, to see if by any accident one or two of a different kind may have been mixed with those that are pure, and to mark them out. After the bulbs have flowered, the flower-stalks should be cut off, to make the leaves grow stronger, and laid in a place where they can do no injury ; because, should they be brought again to the hyacinth beds, they would cause all the bulbs to rot. They cannot even be used as manure for trees, &c., because, if they are not poisonous, they at least always contain a corrosive property, and to such a degree, that in the month of October the labourers, after working five or six hours among them, become red and fiery all over, and are in so much pain that it frequently even prevents sleep. There are some kinds, and particularly those that have small bulbs and full strong flowers (so much so, that the flower is out of proportion with the bulb), that should have the flower-stalk cut off as soon as the flowers have expanded, in order that the plant may not die of exhaustion. *Henri IV.* belongs to this kind. It is rather expensive, but very beautiful. A strong wind after flowering is very injurious ; because, as the bulbs are then only beginning to increase in size, the wind blowing them backwards and forwards must retard their growth, and be very injurious to them generally. This is generally obviated by tying the flowers to stakes, or surrounding the beds with palings ; and where there are only a few beds, they can be protected with little trouble.

May.—Attention must be paid in this month to keep the bulbs free from weeds, and to see that none of their leaves are hanging down here and there, which is a sign that the bulbs have not been planted deep enough.

June.—Time for removal.—Those bulbs which are in too stiff a soil are generally taken out in the beginning of June, while they are still increasing in size. This must not be neglected, because, although they may appear fine large bulbs, they would, if suffered to exhaust themselves, either wither on the drying-boards, or, for the most part, would perish the following year. They are easily known, by their very luxuriant and beautiful growth, at this time (the beginning of June), in a soil which is not sufficiently sandy, or contains too much rich or stiff soil ; and their beautiful growth must not induce you to let them remain longer in it, as mischief would be sure to follow. It is, indeed, very possible, that the bulbs may afterwards shrivel in some degree, and become

mouldy by being disturbed while they are increasing in size; but, as this can be remedied by cleaning and trimming them carefully, there is nothing to be dreaded. Those plants which are only moderately luxuriant may remain in the ground till the end of June; but the usual time is the middle of that month. A yellow or withered appearance at the tips of the leaves is a sure sign that they have done growing; and when this is the case it is advisable to take them out. Dry weather, during this operation, is indispensably necessary; therefore, when there is not a continuation of fine weather, every moment of dry weather or sunshine should be taken advantage of; but in very warm situations, where the sun has great power on the sand, care must be taken that those bulbs which are taken out and laid on the ground do not perish by the too great heat of the sun. In that case, the operation should be performed in the morning.

The manner of taking out the bulbs in Holland is nearly as follows:—First, all the leaves are pulled up in the same way as you would pull out weeds. The bulb remains in the ground, and the leaves break off exactly at the point or summit of the bulb, which it is very necessary to preserve. When the leaves are removed, the bulbs are immediately taken out, and this must not be delayed even to the following day, because, when the leaves are taken away, and wet weather follows, the moisture will penetrate into the bulbs and make them sickly. If the bulbs have been planted in rows, and in good order, they will be easily found again. When the bed is empty, it must be raked smooth all over; and a strip in the middle, about a foot and a half broad, must be made flat and firm by means of a board being pressed upon it, or the back of a spade. On this smooth part of the bed the bulbs should be placed in rows, keeping each sort separate; but care must be taken at all times to lay those that are diseased by themselves, so that they may not infect the others; and lest any of those that are diseased may have been overlooked, the bulbs should be so placed that one bulb may not touch another. It often happens, when the leaves are pulled off, as above described, that they do not come entirely from the point of the bulb, in which case they must be cut, as they would rot off afterwards, and run the risk of destroying a whole bed of bulbs in the course of a few days by the rotz. When they are laid on the strip of ground to dry, the root ends of the bulbs must be turned towards the south, as by this means the rays of the sun will have a greater effect upon them. When the bulbs are placed on the strip of ground along the middle of the bed, the earth from both sides is thrown over them two or three inches thick. The Dutch expression for this is, lying in the *Käuil*. The length of time they lie in the *Käuil* depends upon circumstances. If the bulbs are large and well grown, they should only lie about a fortnight, because if they are kept longer in it, they are in danger of having the rotz; but if they are of a moderate size, they should remain in it three or four weeks. A good deal also depends upon the weather; because during damp weather, or when it varies from moist to warm weather, they must all be taken out sooner, so as not to run the danger of a very serious loss.

There are two artificial methods of propagating bulbs in Holland: one is by means of crosscuts, the other by hollowing out the bulb. Those bulbs that are to be propagated by means of crosscuts must undergo the operation before they are laid in the *Käuil*. The strongest and most healthy bulbs must be chosen for either of these operations, as that is the only chance of obtaining young healthy bulbs. Therefore, when you select bulbs for propagating, and are convinced that they are perfectly healthy, without cutting any part off, make four crosscuts in the root end half-way up the bulb, after which the bulbs should be laid in the *Käuil*, and taken out again like the others. These cuts open pretty wide the same autumn, and send out young bulbs at the cut scales. They must then be planted in this state by themselves; and the next year, after having been dried on the boards, they

are separated and trimmed. While they are increasing in size, very little foliage, or none at all, appears on the surface of the bed, as the old bulb has no longer any influence, and the young ones only exert their strength towards their own increase. The manner of propagating by hollowing out the bulb will be treated of hereafter.

July.—According to the above-mentioned treatment, the removal of the bulbs from the *Käuil* takes place either in the beginning or the middle of this month. Great care must be taken that the weather is fine, so as not to run the risk of a serious loss, and also that the rays of the sun do not fall for too great a length of time on the bulbs, because it might easily happen that great injury might be done, particularly between eleven and three o'clock, and it is therefore better that this work should be performed every morning between five and eleven. The removal of the bulbs from the *Käuil* is very simple. The two or three inches of earth that were thrown over the bulbs are raked off, when the bulbs are easily taken out; they are then laid separately, so that the air and the sun may dry them in the course of two or three hours. They are afterwards put into a parchment sieve, and carefully shaken, which frees them of all the dry roots and scales. If the sieve is not of parchment, it may be of any soft material, and the sides should be stuffed, to prevent the bulbs from sustaining any injury. They are then brought into the bulb-house and laid on the drying-boards, where they may lie close to each other, but not on each other. Whenever the bulbs are handled, great care must be taken that all those that are diseased or dead, and particularly those that have the rotz, are removed from the others. The beds which are now empty may be planted with vegetables.

August.—Time of packing. Those bulbs that are intended for sale must be selected and examined as above mentioned, to see that none are sickly among them. If this month be not moist, propagating by means of hollowing out the bulb may be performed; but if the contrary, it must stand over, and, when this is the case, it is better to wait till the following August. It is very desirable, as has been already mentioned, that healthy and strong bulbs should be chosen for propagating, as it not only insures healthy young ones, but a greater number of them. The manner of hollowing out the bulb is as follows:—

Place your thumb on the root end of the bulb, and cut round it with a sharp knife, hollowing out the plate or root end as far as the middle of the bulb, and when the knife has passed in a circular direction round the bulb, be particularly careful to take it out again where the incision began, or rather so to perform this circular cut, that the plate extending half-way into the bulb may fall out of itself. As this operation causes a great deal of moisture to flow from the bulb, and also a great degree of danger of its rotting away, it is therefore advisable that it should not be undertaken during moist weather. The hollowed-out part of the bulb ought not to be touched either with the finger or with anything else, and the best way is to strew a dry board with fine dry sand, to lay the bulbs upon it, and to turn the hollowed-out part to the sun. After lying some time, the heart, which extends as far as the point of the bulb, and which was not removed when the bulb was hollowed out, becomes detached by the heat of the sun, and can be taken away with a chip of wood. When the hollowed part is properly dried, some shelves, or a stand, should be prepared in a very dry place, and strewed with very fine and dry sand one inch thick, on which should be laid the hollowed-out bulbs till they are planted. If the weather be dry, they ought to have air; but if it be moist, the air should be excluded. Bulbs thus treated produce a number of young bulbs as small as grains of corn on all the scales. In some places the hollowed-out plates are preserved, because these also produce young ones; but they are in general not much valued, and are thrown away, as the young bulbs produced by them are never vigorous. When the hollowed-out bulbs are set in the

sun, care must be taken that they are not burned when the sun is too hot, in which case they should be put in a greenhouse behind the sashes. They must be looked at at least twice a day, because they very soon begin to rot ; and if this should be the case, the rotten part should be cut off as soon as possible, and the bulb replaced in the sun and air. When this kind of propagating proves successful, a great many young ones are obtained, but it generally takes four, or even five years, to bring them to perfection ; whereas those that are obtained by the crosscuts only take three years, though not nearly so many young ones are obtained. Those which are raised from hollowing out, as well as those from the crosscuts, do not produce any leaves on the surface of the bed the first year. Both should be planted separately, in a suitable part of the garden, and in the kind of earth used for hyacinths.

September.—Packing should go on during this month ; and it must be particularly remembered that all those beds on which hyacinths or other bulbs are to be planted must now be dug again, so that (as above mentioned) planting may begin the following month. The beds on which hyacinths are to be planted next month, and which are now dug one and a half inches or two inches deep, are those which were dug deep in the months of January and February, and in which (as has been mentioned) the dung was dug one foot deep, and on which vegetables or annuals grew during summer.

Observations on the Rotz.—This disease causes a dreadful destruction among the hyacinths ; and it is much to be lamented that we have not hitherto been able to account for its existence, or to give a certain remedy for its prevention. A considerable time back the sum of two thousand ducats was offered for a remedy for this disease, which has thrown considerable light on the subject, but unfortunately it has not been ultimately attended with any beneficial effects. We, however, know this much, that the rotz generally begins in spring, when there is fine warm weather, accompanied by a north wind ; because by that means the sun warms the earth during the day, and it freezes again at night, which causes a very unequal and probably injurious temperature to the hyacinths. This may be easily prevented where the beds are small, because they can be covered ; but how is it possible to do so to the very extensive plantations of the Haarlem florists ? Hedges might certainly protect them against the wind, but would not protect them long enough against variations of the atmosphere ; particularly as the soil intended for hyacinths is very easily heated or cooled by the changes of the air. This disease is also prevalent when the bulbs are put into too stiff a soil, and thereby grow too strong ; but of this, and the means to prevent it, we have already spoken. This disease also appears, and makes great devastation while the bulbs lie in the *Käuil*. Certainly a great deal depends upon circumstances ; and as we know that hyacinths are very liable to such attacks, they should be very delicately handled, which is not always the case. They must not be let fall, or get any bruises, as either would injure them very materially. No kind of litter, such, for instance, as their own leaves, &c., should be suffered to be near them ; and they must be so laid in the *Käuil*, that one may not touch the other, so that the strength of any of them may not be diminished. They must not be allowed to be wetted by rain, or burned by the rays of the sun. If the weather is too wet or variable, they must be taken out of the *Käuil* sooner than usual. These, and all other particulars, depend upon circumstances ; and the more these are studied, the nearer will the object in view be obtained. This is such a contagious disease, that if one bulb in a bed be attacked by it, and suffered to remain, it contaminates the ground even to the third year ; therefore the rule is, to plant hyacinths, at least, only every fourth year on the same bed, or to take out the old earth and to fill it with new, if you intend to plant the bed again. The white rotz is quite as dangerous as the black rotz,

although the latter is more prevalent, and all bulbs so attacked must be thrown away; but it is often the case that a very valuable bulb is but slightly attacked, and when that is the case, a simple remedy can be applied, viz., that of laying it in a place where snails abound, which are soon allured to it, and completely eat out all the diseased part, and leave the part that is healthy. The bulbs should then be set in the sun, where they will, in all probability, be cured of their disease. Some kinds of scilla, ornithogalum, and narcissus are also attacked by the rotz. A trial has been made of strewing saltpetre in the ground, to prevent the rotz, but the result was very unsuccessful, and the disease was found to be increased, instead of diminished.

FORCING HYACINTHS.

In order to make hyacinths flower in the beginning of December, they should be planted the beginning of August, and the pots plunged in the open ground deep enough to allow them to be covered with mould to the depth of four inches. They should be taken out again about the middle or end of October, put in warm tan or sand in a hothouse, near the sashes, and kept moist. Those forced hyacinths which are intended to flower in February and March, should be planted in September and October, or even about the middle of November; the pots being plunged in the open ground, and covered with mould. A bed should be made the beginning of January, consisting only of horse-dung, four or five feet deep; it should remain in that state about a week, and then as much mould added as will cover the pots when they are sunk in it. The pots should be now all put in, and the sash raised four or five inches, to admit air both night and day, so that the steam generated by the heat may readily escape. This must not be neglected even during frosty weather; otherwise the hyacinths will be burned.

During a severe frost it may be thought that admitting the air is quite unnecessary, but it must not be omitted, only hanging cloths over the opening; as if air be not admitted, all the hyacinths will be found burned up the following morning.

2.—HYACINTHUS AMETHYSTINUS, *Lin.* THE AMETHYSTINE, OR SPANISH HYACINTH.

<p>SYNONYMES.—<i>H. hispanicus</i>, <i>Lam.</i>; <i>H. angustifolius</i>, <i>Usteri.</i>; <i>H. minor</i>, <i>Clus.</i></p>	<p>Flow. Gard. t. 135; and our <i>fig. 1</i> in Plate 46. SPECIFIC CHARACTER.—Perianth cylindrical at the base, slightly 6-cleft, segments recurved.</p>
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DESCRIPTION, &c.—This very pretty little plant is a native of Spain, whence it was introduced by Miller, in 1759. It is quite hardy, and flowered freely in the open border in our little garden at Bayswater in the summer of 1841. The bulbs are not common in the seed-shops; but the one we have was procured from Messrs. Pope, of the Handsworth nursery, near Birmingham.

3.—HYACINTHUS SPICATUS, *Smith.* THE SPIKE-FLOWERED HYACINTH.

<p>ENGRAVINGS.—Bot. Reg. t. 1869; and our <i>fig. 2</i> in Plate 46. SPECIFIC CHARACTER.—Leaves linear, spreading on the ground.</p>	<p>Scape erect, naked, with the flowers in a crowded terminal spike. Bracts membranaceous.</p>
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DESCRIPTION, &c.—A little insignificant plant, with leaves lying on the ground. It is a native of Greece and the Ionian Isles, and it was introduced in 1835. It flowers in February, and requires to be kept in the greenhouse.

GENUS XIV.

UROPETALON, *Ker.* THE UROPETALON.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth funnel-shaped, 6-cleft; segments spreading at the apex, the three inner ones the shortest. Stamens 6, seated in the throat of the corolla, inclosed; filaments dilated. Style straight, trigonal; stigma bluntish. Capsule membranous, acutely

triquetrous, 3-celled, dehiscent at the apex, by the cells. Seeds horizontal, compressed with a dark crustaceous testa. Flowers disposed in simple racemes; bracts exceeding the pedicels. (*G. Don.*)

DESCRIPTION, &c.—The plants comprised in this genus have been separated from *Hyacinthus* and *Lachenalia*, in which genera they were formerly included. The name *Uropetalon* signifies a tailed petal, the outer segments of the perianth being furnished with a long flat appendage, as long as the tube of the flower, which it is turned back over, the other part like the tail of a squirrel.

1.—UROPETALON VIRIDE, *Ker.* THE GREEN UROPETALON.

SYNONYMES.—*Hyacinthus viridis*, *Red.*; *Lachenalia viridis*, *Willd.*; *Zuccagnia viridis*, *Thun.*

ENGRAVING.—*Red. Lil.* t. 203.

SPECIFIC CHARACTER.—Leaves green, linear, channelled, longer than the scape.

DESCRIPTION, &c.—A plant of no beauty; a native of the Cape of Good Hope, introduced by Mr. Masson in 1774, and flowering in August. It requires the protection of a greenhouse in Britain.

2.—UROPETALON GLAUCUM, *Burch.* THE GLAUCCUS UROPETALON.

ENGRAVING.—*Bot. Reg.* t. 156.

SPECIFIC CHARACTER.—Leaves glaucous, broad-lanceolate, erect; scape short; pedicels very long.

DESCRIPTION, &c.—A curious plant, differing very little from the preceding species, except in the glaucous leaves. It was found by Mr. Burchell, at Klaarwater, a village near the Orange River, not far from the Cape of Good Hope. It was introduced in 1815.

3.—UROPETALON LONGIFOLIUM, *Lindl.* THE LONG-LEAVED, OR MOZAMBIQUE UROPETALON.

ENGRAVING.—*Bot. Reg.* t. 974.

SPECIFIC CHARACTER.—Leaves linear-lorate, acuminate, reflexed. Raceme few-flowered.

DESCRIPTION, &c.—A little insignificant plant, too tender to live in the open air in England. A native of Mozambique; introduced in 1822. The flowers are brown and grey.

4.—UROPETALON SEROTINUM, *Ker.* THE LATE-FLOWERING UROPETALON.

SYNONYMES.—*Scilla serotina*, *Gawler*; *Lachenalia serotina*, *Willd.*; *Dipcadi serotina*, *Usteri*; *Hyacinthus serotinus*, *Lin.*; *Albuca minor*, *Gleditsch*; Brown *Scilla*.

ENGRAVING.—*Bot. Mag.* t. 859.

SPECIFIC CHARACTER.—Leaves linear, acuminate, channelled, nearly the length of the scape, erect. Raceme spike-like, many-flowered. Flowers nearly secund.

DESCRIPTION, &c.—One of the handsomest of the genus, though still possessing but little pretension to beauty. It is a native of Spain, and both the shores of the Mediterranean. It was introduced before the time of Gerard, and is frequently found in gardens, where it is grown in the open border. In very severe and very long frosts, it is sometimes killed if not slightly protected.

5.—UROPETALON FULVUM, *Ker.* THE COPPER-COLOURED UROPETALON.

SYNONYMES.—*Scilla serotina* β , *Gawler* ; *Hyacinthus fulvus*, *Cov.*
 ENGRAVINGS.—*Bot. Mag.* t. 1185 ; and our *fig.* 5 in Plate 44.

SPECIFIC CHARACTER.—Leaves lorate-acuminated, concave. Raceme erect, many-flowered.

DESCRIPTION, &c.—A rather lively-looking plant when it flowers freely, which it will only do in a warm and sheltered situation. It is a native of Mogador, whence it was introduced in 1808. None of the plants belonging to this genus are desirable in small gardens ; as they none of them possess sufficient beauty to render it worth while to be at the trouble necessary to grow them well.

GENUS XV.

BELLEVALIA, *Lap.* THE ROMAN SQUILL.

Lin. Syst. HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth angularly campanulate, 6-cleft ; segments straight, plicate outside. Stamens 6, inserted into the tube of the perianth, inclosed ; filaments dilated at the base. Style short ; stigma acute. Capsule membranous, acutely triquetrous, 3-celled, 3-valved. Cells few-seeded. Seeds horizontal, nearly globose, with a black testa, and naked umbilicus. Flowers in simple racemes. (*G. Don.*)

DESCRIPTION, &c.—This genus, which was named by La Peyrouse, in honour of M. Belleval, a French botanist, contains only one species, viz., the plant generally called the Roman Squill.

1—BELLEVALIA ROMANA, *G. Don.* THE ROMAN SQUILL.

SYNONYMES.—*B. operculata*, *Lap.* ; *Scilla romana*, *Ker* ; *Hyacinthus romanus*, *Lin.* ; *H. comosus*, *Park.*

ENGRAVINGS.—*Bot. Mag.* t. 939 ; and our *fig.* 2 in Plate 44.

SPECIFIC CHARACTER.—Leaves longer than the scape ; attenuated, convolutedly concave. Raceme cylindrical-conical. Peduncles equal in length to the perianth ; bracts fleshy.

DESCRIPTION, &c.—This very handsome plant, which is not half so much cultivated as it ought to be, is a native of Italy, and quite hardy in English gardens. It was introduced before the time of Gerard ; and it requires no care in its culture, after its first planting in rather light and sandy soil.

GENUS XVI.

MUSCARI, *Tourne.* THE GRAPE HYACINTH.

Lin. Syst. HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth ventricose-tubular, contracted at the throat, cleft into six very short teeth at the margin. Stamens 6, inserted in the middle of the tube. Stigma simple. Cells of the capsule generally two-seeded.

DESCRIPTION, &c.—Most of the species of this genus closely resemble each other except in the colour of their flowers. *M. comosus* and its variety are, however, very distant. The name Muscari is said by some to be derived from the Greek name for musk, and by others to be the Turkish name of *M. moschatum* ; while others say it is derived from the Latin word, *muscus*, a fly, and signifies that the flowers resemble a kind of flapper, used to drive away flies.

1.—MUSCARI MOSCHATUM, *Ker.* THE MUSK HYACINTH.

SYNONYMES.—*Hyacinthus Muscari*, *Lin.*; *H. botryoides major*, *Park.*; *Muschio greco*, *Ital.*
 ENGRAVING.—*Bot. Mag.* t. 734.

SPECIFIC CHARACTER.—Perianth urceolate-cylindrical. Raceme many-flowered, crowded; flowers horizontal, nearly sessile.

DESCRIPTION, &c.—This species is easily known by its strong smell of musk. The flowers, when they first appear, are purplish, but they gradually become yellowish in the lower part of the raceme; those at the apex retaining the purple tinge. The species was first brought to England from Constantinople in 1554, having been described by Clusius; but it is said not to be a native of Turkey, and only to be found wild near Aleppo. It is quite hardy, and will grow freely in the open border in any common garden soil. The flowers have a strong scent of musk.

2.—MUSCARI MACROCARPUM, *Swt.* THE LARGE-FRUITED GRAPE HYACINTH.

SYNONYMES.—*M. moschatum* β *flavum*, *Ker.*; *M. ambrosiacum* *Red.*; *Tibcadi Muscari* of the Dutch florists; Yellow musk hyacinth; Large musk hyacinth.

ENGRAVINGS.—*Bot. Mag.* t. 1565; *Swt. Brit. Flow. Gard.* t. 210; and our *fig. 2*, in Plate 47.

SPECIFIC CHARACTER.—Perianth ventricose-cylindrical, four times as long as the pedicel. Raceme many-flowered, crowded; scape somewhat compressed. Capsule very large, with three broad, flat sides. Leaves spreading, glaucous, elongately lanceolate, acuminate, channelled concavely.

DESCRIPTION, &c.—This very handsome species is easily distinguished from *M. moschatum*, by the large size and brilliant colours of its flowers, and its large, three-sided capsule. The species was brought from Constantinople in 1812, and it is said to be a great favourite with the Turkish girls, as in the language of flowers it signifies their assent to their lovers' entreaties. Bulbs may be purchased in the seed-shops under the name of the Large Musk Hyacinth, and they only require planting in the open border, in a tolerably light soil.

3.—MUSCARI COMOSUM, *Spreng.* THE TUFTED MUSCARI, OR TASSEL HYACINTH.

SYNONYMES.—*Hyacinthus comosus*, *Lin.*; the Purple Grape Hyacinth; Fair-haired Jacinth; Purse tassels.

ENGRAVINGS.—*Bot. Mag.* t. 133; and our *fig. 3*, in Plate 47.

SPECIFIC CHARACTER.—Perianth angular-cylindrical; pedicel much longer than the perianth. Raceme erect, flowers lax.

VARIETY.—*M. c.* 2 *monstrosum*, *G. Don.* The feathered Hyacinth.

DESCRIPTION, &c.—This curious plant, and its still more curious variety, are now so common in our gardens as to cease to excite much attention, and indeed they have both been in cultivation since the time of Parkinson, and probably for some time before. The species grows wild in the corn-fields of Spain, Portugal, and some parts of Germany; and it will grow in the open border in English gardens without requiring any particular care. It flowers in May and June. Both the species and the variety are common in the seed-shops.

4.—MUSCARI CILIATUM, *Ker.* THE CILIATED TASSEL HYACINTH.

SYNONYMES.—*Hyacinthus ciliatus*, *Bieb.*; *H. sarmaticus*, *Pall.*; *H. romanus* β , *Lam.*; *H. comosus byzantinus*, *Clus.*; Clusius' Grape Hyacinth.

ENGRAVING.—*Bot. Reg.* t. 394.

SPECIFIC CHARACTER.—Leaves ciliated. Perianth campanulate-cylindrical, semi-six-cleft; pedicels very long.

DESCRIPTION, &c.—A plant of no beauty, and looking like a deformed specimen of the tassel hyacinth. It is a native of Caucasian Tartary, and was introduced by Clusius, who sent bulbs of it from Vienna to England in 1578.

5.—MUSCARI GLAUCUM, *Lindl.* THE GLAUCCUS TASSEL HYACINTH.

ENGRAVING.—Bot. Reg. t. 1085.

SPECIFIC CHARACTER.—Leaves broad, acuminate, glaucous; shorter than the scape. Perianth turbinate, 6-cleft, open at the apex. Pedicel

much longer than the perianth. Raceme lax, pyramidal, many-flowered.

DESCRIPTION, &c.—This species was introduced from Persia in 1825, and has proved quite hardy in the London Horticultural Society's garden, flowering in May. It is nearly allied to *M. ciliatum*, but it is much handsomer.

6.—MUSCARI COMMUTATUM, *Guss.* THE CHANGEABLE GRAPE HYACINTH.

ENGRAVING.—Swt. Brit. Flow. Gard., 2nd ser. t. 369.

SPECIFIC CHARACTER.—Leaves linear, channelled, flaccid, longer than

the scape. Perianth obovate, 6-cleft, open at the apex. Pedicel about equal in length to the perianth. Raceme short, crowded.

DESCRIPTION, &c.—The flowers of this species change from a bluish to a reddish purple, according to the length of time they have been expanded; the flower is pitcher-shaped, and the raceme very short. The leaves are concave, and stand higher than the flowers. This species is a native of Italy and Sicily, and is quite hardy in England. It was introduced in 1837.

7.—MUSCARI PALLENS, *Fisch.* THE PALE GRAPE HYACINTH.SYNONYME.—Hyacinthus pallens, *Bieb.*

ENGRAVING.—Swt. Brit. Flow. Gard. t. 259.

SPECIFIC CHARACTER.—Leaves linear-acute, glaucous, very smooth. Perianth inflated, cylindrical; throat open. Pedicel shorter than the perianth. Raceme short, crowded.

DESCRIPTION, &c.—This pretty little plant forms a very distinct species. The flowers, which vary from blue to white, are small, and open at the apex, where they are cut into six short teeth, and they are very fragrant. The species is most nearly allied to the common starch hyacinth.

8.—MUSCARI RACEMOSUM, *Lindl.* THE STARCH HYACINTH.SYNONYME.—Hyacinthus racemosus, *Lin.*

SPECIFIC CHARACTER.—Leaves linear, channelled, longer than the scape, loosely spreading. Perianth obovate, contracted at the mouth.

Pedicel much shorter than the perianth. Raceme very short and much crowded.

DESCRIPTION, &c.—This plant is frequently found wild in England in sandy soils, particularly in Norfolk and Suffolk; and it is called the Starch Hyacinth, because its flowers smell like wet starch. It is quite hardy, and flowers in May.

9.—MUSCARI BOTRYOIDES, *Willd.* THE COMMON GRAPE HYACINTH.SYNONYMS.—*M. pedunculare*, *Haw.*; *Hyacinthus botryoides*, *Lin.*

ENGRAVINGS.—Bot. Mag. t. 157; Swt. Brit. Flow. Gard. t. 15.

SPECIFIC CHARACTER.—Perianth globose, very much contracted at

the mouth. Pedicel very short. Raceme crowded at the apex, but somewhat lax below. Leaves linear, erect, nearly smooth, numerous, somewhat shorter than the scape.

DESCRIPTION, &c.—This is the plant from which the whole genus takes its English name, as the flowers are round like little grapes. There are three varieties, light blue, dark blue, and white, which are common in gardens; and it is said there is another with bluish or pale pink flowers, which is very rare. The species is a native of Italy, and was introduced before the time of Gerard. It flowers freely in the open border.

OTHER SPECIES OF MUSCARI.

M. PARVIFLORUM, *Rem. et Schultes.*

This species was introduced from Sicily in 1827, and has small blue flowers.



Lachnalia pectinata L. *Ruellia maculata* Sw. *Lupinus micranthus* Guss.
Lupinus albus L. *Erasmoneuron latifolium* Sw.

Painted by J. H. R. in the year 1867.

GENUS XVII.

LACHENALIA, *Willd.* THE LACHENALIA.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth inferior, 6-cleft, cylindrical-campanulate; three outer segments shorter than the inner ones. Filaments inserted in the base of the segments of the perianth, subassurgent.

Style ascending, slightly curved; stigma simple. Capsule membranous, sub-trigonal, 3-celled, 3-valved. Seeds numerous, in two series, globose.

DESCRIPTION, &c.—A genus of very showy plants, that will succeed well in the open air, if planted in sandy soil and in a sheltered situation. They are all natives of the Cape of Good Hope, but the different species bear very little likeness to each other. The name of *Lachenalia* was given to the genus by Jacquin and Willdenow, in honour of Professor de la Chenal, an eminent botanist of Basle. The bulbs should be planted in October, and protected during winter by a frame, dead leaves, or a mat, and they will flower in spring. When the leaves decay, they may be taken up; but this is not necessary if the soil and situation be dry.

1.—LACHENALIA PENDULA, *Willd.* THE PENDULOUS LACHENALIA.

SYNONYME.—*Phormium bulbiferum*, *Cyrilli*.

ENGRAVINGS.—*Bot. Mag.* t. 590; and our *fig.* 1 in Plate 47.

SPECIFIC CHARACTER.—Leaves two, ovate-lanceolate, erect; pedicels

very short; flowers nodding; outer segments of the perianth somewhat shorter than the inner ones.

DESCRIPTION, &c.—A showy plant flowering in April and May. It is common in gardens, though it not only requires a sandy soil, but either taking up in autumn, or protecting during winter. It is a native of the Cape, whence it was introduced in 1774; but the bulbs sold in the seed-shops are generally imported from Holland. There are two kinds, one with green leaves, and the other with the leaves spotted.

2.—LACHENALIA QUADRICOLOR, *Jacq.* THE FOUR-COLOURED LACHENALIA.

SYNONYME.—*L. pendula*, β *Willd.*

ENGRAVINGS.—*Bot. Rep.* t. 148; *Bot. Mag.* t. 588.

SPECIFIC CHARACTER.—Leaves at first fistular, but afterwards becoming long, narrow, and channelled; one much longer than the other.

Flowers much longer than the pedicels; outer segments of the perianth only half the length of the inner ones.

VARIETY.—*L. p.* 2 *colorata*, *Bot. Mag.* t. 1097, has the leaves spotted.

DESCRIPTION, &c.—This species, which is by far the handsomest of them all, though it was considered by Willdenow to be a variety of the last, yet differs widely from it. The flowers are easily distinguished from those of *L. pendula* by their more brilliant colour, their longer foot-stalks, and the shortness of the outer segments of the perianth. The leaves are also very different, as when they first appear, they are round and hollow, but they split open and spread out as they get older. Those of the young offsets, however, do not open at all, and hence they look like a different plant. Besides these differences, one of the leaves is short and erect, and the other much longer and recurved; the flower scape is much weaker than that of *L. pendula*, and the flowers on it are farther apart; and the inner segments of the flowers open wider at the mouth. The species was introduced in 1800. This species may be purchased at Carter's, and other seed-shops.

3.—*LACHENALIA LUTEOLA*, Jacq. THE YELLOWISH LACHENALIA.SYNONYMES.—*L. tricolor*, *β Willd.*; *L. flava*, *And.*

ENGRAVINGS.—Bot. Mag. t. 1020; and Bot. Rep. t. 456.

SPECIFIC CHARACTER.—Leaves two, oblong-lanceolate, recurved.

Inner segments of the perianth one-third longer than the outer ones, broad, and widely opened at the mouth.

VARIETY.—*L. l. maculata*, Jacq. Leaves spotted.

DESCRIPTION, &c.—Both the species and the variety have yellow flowers, which, when they first expand, have a slight touch of green, and the leaves are equal in size. Except in these particulars and in the outer segments of the perianth being only one-third shorter than the others, there is very little difference between this and the preceding species. *L. luteola* was introduced from the Cape in 1774. The culture is the same in all. The bulbs should be planted in October, and slightly protected during winter. They will flower in spring, and the bulbs may be taken up, like those of tulips, when the leaves decay. Those of this species and of *L. quadricolor* may, however, be left in the ground if the soil be dry.

4.—*LACHENALIA TRICOLOR*, Jacq. THE THREE-COLOURED LACHENALIA.SYNONYME.—*Phormium aloides*, Lin.

ENGRAVING.—Bot. Mag. t. 82.

SPECIFIC CHARACTER.—Leaves twin, short, broad, widely spreading,

and recurved. Outer segments of the perianth one third shorter than the inner ones, which are somewhat open at the mouth.

DESCRIPTION, &c.—This species has but little claim to the appellation of tricolor, as the colours of red and green are very faint, and yellow predominates. It is generally grown in pots, and kept in the greenhouse; and if necessary it may be put in the hothouse and made to flower at Christmas, as it bears forcing well. It was introduced about 1790.

5.—*LACHENALIA RUBIDA*, Ker. THE DEEP RED LACHENALIA.SYNONYMES.—*L. tigrina*, Willd.; *L. punctata*, Jacq.; *Orchis hyacinthoides*, Burb.

ENGRAVING.—Bot. Mag. t. 993.

SPECIFIC CHARACTER.—Leaves lanceolate, faintly spotted; raceme crowded; pedicels very short; outer segments of the perianth nearly as long as the inner ones. Scape round, spotted.

DESCRIPTION, &c.—A plant of no beauty, but curious from its head of deep red dotted flowers. It is generally grown in a very small pot, and kept in the greenhouse, where it will flower freely, if allowed a season of rest in autumn.

6.—*LACHENALIA UNIFOLIA*, Jacq. THE ONE-LEAVED LACHENALIA.SYNONYME.—*L. viridis*, Hort.

ENGRAVING.—Bot. Mag. t. 766.

SPECIFIC CHARACTER.—Leaf solitary; raceme lax; pedicels longer

than the flowers. Perianth urceolate-cylindrical; outer segments nearly equal to the inner ones. Bracts membranous.

DESCRIPTION, &c.—This plant is so different from all other species as to seem almost to belong to another genus. The flowers are like little green bells, and the single leaf looks like a spathe, with a long tapering point, and a pink margin. It was introduced in 1795, and though a native of the Cape, it proves much hardier here than any other species. It is sold in the shops under the name of *Lachenalia viridis*, and if it is planted in autumn in a dry sandy soil, three or four inches deep, it may be safely left in the ground all the winter, and indeed will require no farther care.

7.—*LACHENALIA BIFOLIA*, Ker. THE TWO-LEAVED LACHENALIA.

ENGRAVING.—Bot. Mag. t. 1611.

SPECIFIC CHARACTER.—Leaves two, one small and subulate, the other large and spathe-like, sheathing the stem at the base, and

attenuated at the extremity. Pedicels somewhat shorter than the flower. Perianth cylindrical, tubular and constricted at the base; segments nearly equal, open at the mouth.

DESCRIPTION, &c.—This species has small white flowers tipped with pink; and two curious leaves, one of which appears to grow out of the other. The flowers appear about half-way between those of the *L. pendula* division, and the cup-shaped flowers of *L. unifolia*. The species was introduced in 1813, and it is only half-hardy in British Gardens.

8.—*LACHENALIA CONTAMINATA*, Ait. THE CONTAMINATED LACHENALIA.SYNONYMS.—*L. hyacinthoides*, Willd.; *L. orchioides*, Jacq.; *Hyacinthus orchioides*, Breyn.

ENGRAVING.—Bot. Mag. t. 1401.

SPECIFIC CHARACTER.—Leaves numerous, semi-terete, channelled. Scape short. Raceme crowded, spike-like. Pedicels very short. Perianth campanulate, deeply cleft; segments nearly equal.

DESCRIPTION, &c.—A very curious little plant, with a short, spike-like raceme of white flowers, and numerous very long roundish leaves. The flowers smell like those of the Heliotrope. There appears no reason for the strange specific name. The species was introduced in 1774, but it is now seldom met with.

9.—*LACHENALIA LUCIDA*, Ker. THE SHINING LACHENALIA.SYNONYME.—*L. fragrans*, Andr.

ENGRAVINGS.—Bot. Mag. t. 1372; Bot. Rep. t. 302.

SPECIFIC CHARACTER.—Leaves twin, divaricate, shining. Scape

very short. Raceme cylindrical. Pedicels extremely short. Perianth tubular-campanulate; segments nearly equal, open at the mouth, recurved, spreading.

DESCRIPTION, &c.—This species differs very little from the last except in the leaves, which are broad and spreading, and shining with a glossy lustre. The flowers are small and white, tinged with red. The species was introduced in 1798.

10.—*LACHENALIA RACEMOSA*, Ker. THE BRANCHING LACHENALIA.

ENGRAVING.—Bot. Mag. t. 1517.

SPECIFIC CHARACTER.—Leaves three, lorate-lanceolate, pustulate. Raceme long. Pedicels much longer than the flowers. Perianth

cylindrical-campanulate; segments equal, open at the mouth, spreading, recurved.

DESCRIPTION, &c.—A handsome species with white flowers, though very inferior in appearance to some of the preceding kinds. The leaves are very remarkable from their blistered appearance, as they look something like those of the ice plant. The species is a native of the Cape, whence it was introduced by the Hon. and Rev. W. Herbert in 1811. It may be planted in the open border.

11.—*LACHENALIA UNICOLOR*, Jacq. THE SELF-COLOURED LACHENALIA.SYNONYMS.—*L. u. β*, Ker.; *L. purpureo-cærulea β*, Willd.; *L. fragrans*, Jacq.

ENGRAVING.—Bot. Mag. t. 1373.

SPECIFIC CHARACTER.—Leaves twin, lanceolate-ligulate. Raceme many-flowered. Pedicel erect, much shorter than the perianth; outer segments of the perianth about one-third the length of the inner ones.

DESCRIPTION, &c.—A little insignificant plant, of no great beauty, flowering in August. It was introduced in 1806. It is generally grown in pots, and kept in the greenhouse.

12.—*LACHENALIA ANGUINEA*, Swt. THE SNAKE-LIKE LACHENALIA.

ENGRAVING.—Swt. Brit. Flow. Gard. t. 179.

SPECIFIC CHARACTER.—Leaf solitary, speckled, acute at the point,

and sheathing the stem at the base. Raceme lax. Pedicel longer than the perianth; segments of the perianth very nearly equal.

DESCRIPTION, &c.—The bulb of this species is small and flat; the flowers are small and nearly white, but the plant is ornamental from the beautiful variegation of its leaf, which is streaked or spotted so as to give no bad idea of a snake. This species, like all the others of the genus, is a native of the Cape of Good Hope, whence it was introduced in 1825; and if it be planted in a dry border in a light and somewhat sandy soil, it may be left in the ground for several years without injury, though in very severe frosts it may be as well to cover the border with dead leaves, straw, or litter. Indeed, as a precautionary measure, it is always best to do this with Cape bulbs planted in the open air,—at any rate, for two or three years after planting.

13.—*LACHENALIA PURPUREO-CÆRULEA*, Jacq. PURPLE-BLUE LACHENALIA.

ENGRAVING.—Bot. Mag. t. 745.

SPECIFIC CHARACTER.—Leaves twin, sub-lanceolate. Scape fleshy, erect. Raceme many-flowered, cylindrical, spike-like; pedicels

shorter than the perianth. Segments very nearly equal, open at the mouth and reflexed.

DESCRIPTION, &c.—This plant is a tall strong-growing plant, with blue flowers very much open, like a *Campanula*, and tipped with purple. There are two varieties; one with numerous blisters on the leaves, and the other with the leaves smooth. The flowers smell like hawthorn, and they appear in May. It is generally kept in the greenhouse, but there is no doubt it will succeed in the open air as well as the preceding species.

14.—*LACHENALIA PUSTULATA*, Jacq. THE BLISTERED LACHENALIA.

ENGRAVING.—Bot. Mag. t. 817.

SPECIFIC CHARACTER.—Leaves twin, pustulate, very long. Pedicels

very short. Outer segments of the perianth much shorter than the inner ones.

DESCRIPTION, &c.—A species with small greenish white flowers; which requires a greenhouse in England, but is not worth cultivating. It was introduced in 1790.

15.—*LACHENALIA NERVOSA*, Ker. THE NERVED-LEAVED LACHENALIA.

ENGRAVING.—Bot. Mag. t. 1497.

SPECIFIC CHARACTER.—Leaves twin, ovate, strongly nerved. Raceme

long, somewhat lax-flowered. Pedicels very short. Segments of the perianth very nearly equal.

DESCRIPTION, &c.—The leaves of this species are broad, flat on the ground, and strongly nerved; the flowers are of a greenish white, but they are rather pretty from the pink filaments of the anthers. The flowers appear in June and smell like new hay. The species was introduced in 1810; and though it is generally grown in a pot, it would no doubt succeed in the open ground.

16.—*LACHENALIA ANGUSTIFOLIA*, Jacq. THE NARROW-LEAVED LACHENALIA.

ENGRAVING.—Bot. Mag. t. 735.

SPECIFIC CHARACTER.—Leaves numerous, fleshy, nearly round.

Raceme short, crowded. Pedicels only half the length of the perianth. Perianth campanulate, segments very nearly equal.

DESCRIPTION, &c.—A little insignificant plant, with numerous roundish, fleshy leaves, and small white open flowers, which are almost sessile. It is frequently a year or two without flowering. It was introduced in 1793.

17.—*LACHENALIA PALLIDA*, *Thunb.* THE PALE LACHENALIA.

ENGRAVING.—*Bot. Reg.* t. 1350; *var. β*, t. 314; *var. γ*, t. 1945. | Perianth campanulate-tubular, outer segments one-third shorter than the others. Scape angular; flowers sessile.

SPECIFIC CHARACTER.—Leaves linear-oblong, longer than the scape.

DESCRIPTION, &c.—The flowers are large, but of a pale faded colour. There are three or four varieties, but none of them possess any beauty. The species was introduced in 1782.

18.—*LACHENALIA MUTABILIS*, *Swt.* THE CHANGEABLE LACHENALIA.

ENGRAVINGS.—*Swt. Brit. Flow. Gard.* 2d ser. t. 129; and *Lodd. Bot. Cab.* t. 1076. | margin. Flowers nearly sessile. Perianth urceolate-campanulate. Calycine segments much shorter than the others.

SPECIFIC CHARACTER.—Leaves oblong-lanceolate, undulated at the

DESCRIPTION, &c.—A curious little flower of no beauty. Introduced in 1825.

19.—*LACHENALIA ORCHIOIDES*, *Jacq.* THE ORCHIS-LIKE LACHENALIA.

SYNONYME.—*Hyacinthus orchioides*, *Breyn.*

ENGRAVING.—*Bot. Mag.* t. 1269.

SPECIFIC CHARACTER.—Leaves broad-lanceolate, spotted. Raceme

long, crowded; flowers sessile. Perianth campanulate-urceolate. Calycine segments one-third shorter than the others, which are spreading.

DESCRIPTION, &c.—A handsome plant, having very much the appearance of a *Verbascum*. The leaves are short and broad, very much spotted, and wavy at the margin. It was introduced in 1752.

20.—*LACHENALIA GLAUCINA*, *Jacq.* THE GLAUCOUS LACHENALIA.

ENGRAVING.—*Bot. Mag.* t. 3552.

SPECIFIC CHARACTER.—Leaves twin, oblong. Flowers sessile; outer segments only half the length of the inner ones.

DESCRIPTION, &c.—This species has pale lilac flowers, the outer segments of which are spotted. It is tolerably hardy, and flowers in August. It was introduced in 1795.

OTHER SPECIES OF LACHENALIA.

L. punctata, *Salis.*; *L. flava*, *Andr.*; *L. isopetalon*, *Jacq.*; *L. hirta*, *R. et S.*; *L. sessiliflora*, *And.*; *L. rosea*, *And.*; *L. pusilla*, *Willd.*; *L. reflexa*, *R. and S.*, and many other species are mentioned in the catalogues, but as they are very rarely, if ever, to be met with in British gardens, I have not thought it necessary to describe them.

GENUS XVIII.

DRIMIA, *Salis.* THE DRIMIA.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth 6-cleft, campanulate, nodding. Segments equal, reflexed at the apex. Filaments attached to the corolla. Anthers oblong, erect. Ovary many-seeded. Capsule trigonal, 3-celled, 3-valved.

DESCRIPTION, &c.—This genus was divided from *Lachenalia* on account of the segments of the perianth being all equal, instead of the outer three being shorter than the others, and some other less conspicuous differences. The name of *Drimia* is taken from the Greek word for 'acid,' in allusion to the qualities of the roots, the juice of which is so very acrid, as to occasion blisters when applied to the skin. As most of the species are not at all ornamental, I think it will only be necessary to describe three species, all of which are natives of the Cape, and if planted in the open border, will require a little protection during severe weather.

1.—DRIMIA VILLOSA, *Lindl.* THE DOWNY DRIMIA.

ENGRAVING.—Bot. Reg. t. 1346.

SPECIFIC CHARACTER.—Leaves oblong, undulated, glaucous. Raceme many-flowered, cylindrical. Limb of the perianth oblique.

DESCRIPTION, &c.—This is the handsomest of the genus, though it is still far from being a showy plant. The flowers, which appear before the leaves, are green, with pink stamens, and the leaves are curiously undulated. It was introduced in 1826, and is generally kept in the greenhouse.

2.—DRIMIA ELATA, *Jacq.* THE TALL DRIMIA.

ENGRAVINGS.—Bot. Mag. t. 822; and our *fig.* 4, in Plate 47.

SPECIFIC CHARACTER.—Leaves verticillate, lanceolate, very short. Raceme lax. Pedicels long.

DESCRIPTION, &c.—This species is the hardiest of the genus, and it may be planted in the open border with perfect safety, if the soil be sandy, and well drained. The leaves are very small, and are produced in a whorl round the stem, at the upper part of the bulb.

3.—DRIMIA ALTISSIMA, *Ker.* THE TALLEST DRIMIA.

SYNONYMES.—*Ornithogalum altissimum*, *Lin.*; *O. giganteum*, *Jacq.*
ENGRAVING.—Bot. Mag. t. 1074.

SPECIFIC CHARACTER.—Leaves broad, lanceolate, numerous. Raceme crowded. Pedicels very short.

DESCRIPTION, &c.—The bulb of this species is as large as a child's head; and the scape is about five feet long, of which the raceme of flowers extends over a space of more than two feet. It was introduced in 1791, and it flowers in August.

GENUS XIX.

ERIOSPERMUM, *Willd.* THE ERIOSPERMUM.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth 6-cleft, campanulate, erect; seg- | subulate. Anthers erect. Stigma obsoletely trifid. Capsule some-
ments equal, imbricate, contracted at the apex. Filaments ovate, | what trigonal, 3-celled, 3-valved.

DESCRIPTION, &c.—This genus has a rhizoma rather than a bulb, or rather it is a mass of bulbs grown together. The name is derived from two Greek words, signifying ‘woolly seed.’

1.—ERIOSPERMUM BELLENDENI, *G. Don.* MR. BELLENDEN KER'S ERIOSPERMUM.

SYNONYMES.—*E. latifolium*, *Jacq.*; *Ornithogalum capense*, *Lin.* | SPECIFIC CHARACTER.—Leaf solitary, circular, ovate, strongly
ENGRAVING.—*Bot. Mag.* t. 1382; and our *fig.* 5, in Plate 47. | nerved.

DESCRIPTION, &c.—A plant of no beauty, yet the handsomest of the genus. It flowers in November, before the leaf appears. It is only half-hardy, and requires a greenhouse in winter. It was introduced in 1800.

ALLIED GENERA.

The following genera, either not containing any plants that can be considered ornamental, or consisting entirely of plants difficult to cultivate, I have thought it unnecessary to describe them in detail.

MASSONIA.

This genus was named in honour of Francis Masson, Esq., a gentleman who lived about the middle of the last century, and who introduced a great number of Cape plants, which he sent to the Botanic Garden at Kew. The genus consists of a number of plants with two widely-spreading leaves, with a cluster of flowers, without any apparent footstalk, nestling between them. Some of the species are rather pretty from the colour of their flowers; but they all take a great deal of room, and are difficult to grow well.

DAUBENIA.

This genus was named in honour of Professor Daubeney, of Oxford. There is only one species, *D. aurea*, which resembles a *Massonia*, but has golden yellow flowers.

EUCOMIS.

This genus takes its name from two Greek words, signifying ‘beautiful hair;’ but why it should be called so, unless by way of antiphrasis, I do not know. The species are coarse-growing plants, with thick fleshy stems and weedy-looking leaves, with whitish star-like flowers. Some of the species, such as *E. striata*, are handsome; but even this plant has large, coarse-looking leaves, and a thick fleshy stem, three feet high.

The bulbs of most of these plants are not to be procured at the seed-shops; and if still in this country, they are probably only in some botanic garden.

GENUS XX.

ALLIUM, *Lin., Juss.* THE GARLIC.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth 6-parted. Stamens 6. Stigma usually undivided. Capsule 3-celled, 3-valved; cells 1—2-seeded, rarely many-seeded. Flowers spathaceous, umbellate, pedicellate; pedicels rising from a common centre.

DESCRIPTION, &c.—The name of garlic is so associated with ideas of the rank smell and taste of some of the worst kinds of Continental cookery, and the plant itself is so repugnant to most persons of refined taste, that it seems difficult to imagine the flowers of any species of the genus to be sufficiently ornamental to deserve a place in this work. Yet, so far from this being the case, there is perhaps no genus of bulbous plants which contains more pretty flowers than the genus *Allium*; or flowers of one genus which possess more interest from their great variety, as they are quite distinct from each other, varying widely in colour and size, though still preserving so strong a family likeness as to render it impossible to mistake them. Most of the species are natives of Europe, but some of the ornamental kinds have been introduced from America and the Cape of Good Hope; and the shallot is a native of Palestine. In short, you may say of this genus, as Cowper has done of the flowers in a miscellaneous flower-bed,—the different species of *Allium* are

“ Foreigners from many lands,
Which form one social mass, as if convened
By magic summons of the Orphean lyre,
Yet just arrangement, rarely brought to pass
But by a master's hand disposing well
The gay diversities of various flowers,
Must lend its aid t' illustrate all their charms,
And dress the regular, yet various scene.
Plant behind plant aspiring; in the van
The dwarfish; in the rear retired, but still
Combining with the rest, the statelier stand.”

Nor is the genus *Allium* without its classical allusions. Everybody knows that Ulysses could never have descended into the infernal regions, if he had not turned the dog Cerberus into gentleness by a sprig of the herb Moly, which he held in his hand. Now the herb Moly is no other than the yellow-flowered Garlic, which smells strong enough to frighten away any dog, even without his possessing a triple sense of smelling; which we may fairly suppose Cerberus had, if he was furnished with a pair of nostrils to each of his three heads. I need not here enlarge on the culinary properties of the genus; and in the following enumeration I shall of course omit all description of *Allium sativum* (the common garlic), *A. porrum* (the leek), *A. cepa* (the onion), *A. Schœnoprassum* (chives), *A. ascalonicum* (the shallot), and, in short, all the species which are used as common kitchen vegetables; but I shall give most of the ornamental kinds, as they are well worthy of cultivation as border flowers, though too unpleasant in their smell to admit of their being gathered for nosegays. They are nearly all hardy perennials, which will grow freely in any common soil; and they generally produce their flowers in great abundance. Most of the species when once planted require no further attention, but may be left in the soil for a great many years, without any bad effect being perceptible.



Allium cristatum *Allium triquetrum* *Allium flavum* *Allium parviflorum*
Allium triquetrum *Allium cristatum* *Allium flavum* *Allium parviflorum*

1.—*ALLIUM FLAVUM*, *Lin.* THE YELLOW GARLIC.

SYNONYMES.—*A. juncifolium*, *Rud.* ; *A. montanum*, *Clus.* ;
Moly montanum, *Ger.*

ENGRAVINGS.—*Bot. Mag.* t. 1330 ; *Red. Lil.* t. 119.

SPECIFIC CHARACTER.—Leaves glaucous, few, long, cylindrical,
 attenuated at the point, and stem-clasping at the base. Umbels loose.
 Pedicels flexuous, longer than the flowers. Stem slender, round.

DESCRIPTION, &c.—A very pretty species, with a long, loose umbel, of yellow flowers, and glaucous leaves. It has but a slight odour of garlic, and when kept in a room, is said to have even an agreeable scent. The stem grows from one to two feet high, and the number of flowers is rather small. The species is a native of Austria and the South of France, and it grows freely in the open garden in any tolerably light soil. The flowers are rather pretty, from their golden yellow colour, and the loose manner in which they are disposed on the umbel. It was introduced in 1759.

2.—*ALLIUM SENESCENS*, *Lin.* THE GREYISH, OR NARCISSUS-LEAVED GARLIC.

SYNONYMES.—*A. angulosum*, *Lam. et Dec.* ; *A. narcissifolium*,
Scap. ; *A. glaucum*, *G. Don* ; *A. baicalense*, *Willd.*

SPECIFIC CHARACTER.—Leaves glaucous, few, rather broad, flat,

twisted. Umbel large, round, compact ; flowers large, about equal in
 length to the pedicels. Stem round, fistulose.

DESCRIPTION, &c.—A very beautiful species, with a large, round, compact head of purple or lilac flowers. The leaves are of a bluish-green, flat, and somewhat twisted ; the stem is from one to two feet high, round, and hollow. The species is found wild in central Europe, in France, Italy, Switzerland, and Germany, and also in Siberia. It is quite hardy, and it is very ornamental when in flower in the open garden in June and July ; but it will not bear to be gathered, from the strong garlic-like smell of the juice of the stem when bruised or cut.

3.—*ALLIUM ANGULOSUM*, *Lin.* THE ANGULAR-STEMMED GARLIC.

SYNONYME.—*A. senescens*, *Jacq.*

ENGRAVING.—*Bot. Mag.* t. 1149.

SPECIFIC CHARACTER.—Leaves green, numerous, lorate-linear, ob-

tuse ; outer ones stem-clasping at the base. Umbel close, flowers
 longer than the pedicels. Stem angular, twisted.

DESCRIPTION, &c.—This species is often confounded with the preceding one, and yet when seen together, they may be readily distinguished from each other. The flowers of *Allium angulosum* are pink, and the head or umbel is very close and compact. The leaves are green and not twisted, and they spring in a mass together from the base of the plant. The species is a native of Germany, Switzerland, and Siberia. It is quite hardy in British gardens, and will grow in any soil or situation ; but, like *A. senescens*, it is quite unfit for gathering, on account of the disagreeable odour emitted by its stem when bruised or cut. It was introduced in 1739.

4.—*ALLIUM BISULCUM*, *Red.* THE FURROWED, OR JONQUIL-LEAVED GARLIC.

SYNONYME.—*A. rubens*, *G. Don.*

ENGRAVINGS.—*Bot. Mag.* t. 1381 ; *Red. Lil.* t. 286 ; and our *fig.*
 4, in Plate 48.

SPECIFIC CHARACTER.—Leaves green, numerous, semi-cylindrical,
 attenuated at the point ; outer ones stem-clasping at the base ; slightly
 bisulcate.

DESCRIPTION, &c.—The flower of this species is so much like that of *A. senescens*, that they might be easily mistaken for each other, but the leaves are very different ; those of the present species being narrow, semi-cylindrical, and of a thick fleshy substance, of a clear deep green colour, and not at all twisted ; while those of *A. senescens* are rather broad, flat, thin, glaucous, and very much twisted. It is said to be a native of the South

of Europe, but it was first brought to England from Paris in 1805. It is quite hardy; but care should be taken to mark where it grows, lest it should be accidentally dug up and thrown aside, as the root is small and red, and has scarcely the appearance of a bulb.

5.—*ALLIUM CHAMÆ-MOLY*, *Lin.* THE DWARF MOLY.

ENGRAVING.—Bot. Mag. t. 1203.

SPECIFIC CHARACTER.—Leaves dark-green, hairy, few, flat, facing each other in pairs. Umbel small, few-flowered. Stem wanting.

Spathe scarcely rising above the ground. Pedicels much shorter than the flowers.

DESCRIPTION, &c.—A curious little plant with large white flowers, which rise from the centre of the leaves without any stem. It has more the appearance of a *Massonia*, or dwarf *Ornithogalum*, than of an *Allium*. It is a native of Italy and the coast of Barbary, and in England it requires the protection of a greenhouse, where it flowers from January to March.

6.—*ALLIUM LONGIFOLIUM*, *Spreng.* THE LONG-LEAVED GARLIC.

SYNONYMS.—*A. glandulosum*, *Link*; *Schænoprassum longifolium*, *Kunth*.

ENGRAVINGS.—Bot. Reg. t. 1034; and our *fig. 2*, in Plate 48.

SPECIFIC CHARACTER.—Leaves linear, channelled, larger than the scape. Scape somewhat two-sided, striated, leafy at the base. Umbel loose. Pedicels longer than the flowers.

DESCRIPTION, &c.—This species is very distinct, from its dark marone-coloured flowers, and its very long striated leaves. It is a native of Mexico, where it was first found by Humboldt and Bonpland, and by whom it was sent to Germany. It was introduced into England in 1826, in the following manner, as detailed in the Botanical Register for January 1827:—"Roots of this rare species of *Allium* were found uninjured in the midst of a mass of decayed vegetable matter which had been sent from the Mexican Real del Monte mines, in the form of paper and dried specimens, by Mr. John Brown, but which, owing to an accident, had been almost entirely decomposed by damp. When the package was examined in the Horticultural Society's garden, it was discovered that this *Allium*, a species of *Pedilea*, and one or two other plants, had found their decaying brethren convenient subjects for securing their own resurrection, and had shot forth living roots among the half-rotten and dissevered members of the Berberries, Mallows, and *Cacalias*, by which they were surrounded." The plant is found at a high elevation in Mexico, and it is hardy in British gardens, where it flowers in October.

7.—*ALLIUM NEAPOLITANUM*, *G. Don.* THE NEAPOLITAN ALLIUM.

SYNONYMS.—*A. album*, *Bro. et Red*; *A. lacteum*, *Dec.*

ENGRAVINGS.—Red. Lil. t. 306; Flor. Græc. t. 325; Swt. Brit. Flow. Gard. t. 201; and our *fig. 3*, in Plate 48.

SPECIFIC CHARACTER.—Leaves two or three, sheathing the scape,

lorate-lanceolate, channelled, acute. Scape larger than the leaves, slightly three-sided. Umbel loose, flowers numerous; pedicels much larger than the flowers.

DESCRIPTION, &c.—The flowers of this very handsome species are white, and they are produced in large loosely-spreading umbels. The leaves are rather broad, and yet sharply pointed; and they are of a dark, deep, glossy green. The spathe, which bursts on one side, is a little thin membrane, so small, that it seems difficult to imagine how the large spreading umbel of flowers could ever have been contained in it. The species is found wild near Naples, and it is rather tender in British gardens; that is, it requires a little protection during winter by covering the ground with dead leaves or straw, or putting an hour-glass or a flower-pot over it. It was introduced in 1827, and it flowers in April and May. It should be grown in light sandy soil.

8.—*ALLIUM MAGICUM*, *Lin.* HOMER'S MOLY.

SYNONYMES.—*A. nigrum*, *G. Don* ; *A. monspessulanum*, *Desf.* ;
A. speciosum, *Cyris* ; *A. multibulbosum*, *Jacq.*

ENGRAVINGS.—*Bot. Mag.* t. 1148 ; *Red. Lil.* t. 102.

SPECIFIC CHARACTER.—Leaves few, ovate-lanceolate, convolutedly-concave, striated, acuminate. Scape erect, round, rather short. Umbel close, round, many-flowered. Flowers longer than the pedicels.

DESCRIPTION, &c.—Everybody who has read Homer's *Odyssey* knows that Ulysses could never have descended into the infernal regions if he had not carried a certain herb in his hand ; the magical effect tamed the rage of Cerberus, and softened the heart of Charon so as to make him admit a mortal into his boat. This is well known to every tyro in heathen mythology, but it is not quite so clear what the magical herb was. Homer calls it Moly, and botanists seem all to agree that the plant Homer had in view was a kind of garlic. They differ, however, as to the species ; and unless the purpose were to frighten the infernal deities into obedience, I cannot conceive why this species should have been fixed upon. The flowers are large, and black in the centre ; and they are so disposed on their short stiff stalks, as to form a great round head, as little graceful as any flower can well be conceived. The leaves are short and broad, and generally withered at the point ; and the stem is short, and straight upright. The plant has but little of the smell of garlic, and the flowers are produced in June or July. It is quite hardy, though it is a native of the South of Europe and Barbary, whence it was introduced before 1596. It is easily propagated by seeds or offsets.

9.—*ALLIUM MOLY*, *Lin.* THE YELLOW, OR GOLDEN MOLY.

ENGRAVINGS.—*Bot. Mag.* t. 499 ; and our *fig.* 3, in Plate 48.

SPECIFIC CHARACTER.—Leaves few, lanceolate. Scape sub-cylindri-

cal. Umbel compact, many-flowered. Flowers larger than the pedicels.

DESCRIPTION, &c.—A very handsome plant with golden yellow flowers, which it produces in great abundance in the months of May and June. It seldom grows above eight or ten inches high, but it is very valuable as a border flower, from its thriving in many situations where few other flowering plants will grow, particularly in the smoke of towns ; from the great abundance, and brilliant colour of its flowers ; and from its continuing in blossom a long time. Another advantage is the very little care that it requires to cultivate it, as when once planted, it will need no farther attention ; unless indeed it be to prevent it from covering the whole garden, which it has a great propensity to do, to the exclusion of all other flowers. Plants in our little garden at Bayswater have flowered regularly and abundantly, in the same manner as the *Ornithogalum umbellatum*, for the last ten summers without the slightest care being taken of them. This species is a native of Hungary and of the South of France, particularly near Mont Pellis and on the Pyrenees ; and it appears to have been first described by L'Obel, who was botanist to James I., and who says it was introduced by Edward Lord Zouch in 1604. This was probably the case, as Parkinson, who wrote in the time of Charles I., and who dedicated his work to the Queen Henrietta Maria, speaks of it as then common in gardens. It should be planted in a light free soil ; as where the soil is stiff and moist, its bulbs are frequently attacked by the wire-worm.

10.—*ALLIUM TRIQUETRUM*, *Gouan.* THE TRIANGULAR-STEMMED GARLIC.

ENGRAVINGS.—*Bot. Mag.* t. 869 ; and our *fig.* 6, in Plate 48.

SPECIFIC CHARACTER.—Leaves and stem triangular or three-edged.

Leaves few, green. Umbel loose. Flowers about equal in length to the pedicels.

DESCRIPTION, &c.—This very handsome species has a loose umbel of flowers, which are more campanulate in their form than those of most of the other species of the genus. The species is also readily distinguished from all

the others by the flat three-sided stem, from which the plant takes its name, and which in living specimens looks rather like an abortive leaf than a stem. The species is a native of France and Spain, where in the southern districts it is common enough in fields, growing by the side of a path, or on the headlands. It is quite hardy in British gardens, and when once planted requires no farther culture, save that of tying up the flowers when they appear; as the long, thin, flat stalk, is frequently unable to stand erect, so as to support the heavy umbel with which it is charged. It is very ornamental, and flowers freely in May and June. It was introduced in 1759.

11.—*ALLIUM STRIATELLUM*, Lind. THE STREAKED ALLIUM.

SYNONYMES.—*Ornithogalum gramineum*; grass-leaved Garlic.

ENGRAVINGS.—Bot. Mag. t. 2419; and our *fig. 7*, in Plate 48, under the name of *Allium gramineum*.

SPECIFIC CHARACTER.—Leaves linear, grass-like, shorter than the angular scape. Umbels loose, pedicels erect, and much larger than the flowers. Segments of the perianth ovate, acute, and beautifully striated.

DESCRIPTION, &c.—A delicate little species with very elegant pale-yellow flowers, disposed in a loose umbel. It is quite destitute of the garlicky smell, and from this, and the shape of the flowers, it was at first supposed to be an *Ornithogalum*, though the flowers are more like those of an *Ixia*. It is a native of Chili, and it is generally kept in the greenhouse, where it flowers in May. It was introduced about 1820.

12.—*ALLIUM CÆRULEUM*, Pallas. THE BLUE ALLIUM.

SYNONYMES.—*A. azureum*, Led.; *A. cærulescens*, G. Don; the blue Leek.

ENGRAVINGS.—Bot. Reg. for 1840, t. 41; and our *fig. 1*, in Plate 48.

SPECIFIC CHARACTER.—Leaves linear, somewhat triquetrous. Scape cylindrical. Umbel globose, compact, with the pedicels about equal in length to the flowers. Spathe very short.

DESCRIPTION, &c.—This species is quite hardy, and if planted in rich garden soil, it will grow about eighteen inches high, and will produce abundance of its bright blue flowers about the end of June. It was "originally found by Pallas in abundance upon the salt plains of Asiatic Russia, near the Irtish river; and afterwards by Ledebour on the Altai mountains." It was introduced in 1834.

OTHER ORNAMENTAL SPECIES OF *ALLIUM*.

In the above selection, I have described those ornamental species of the genus which are most readily to be obtained in the neighbourhood of London; but there are several other species, very ornamental, which may possibly be still cultivated in parts of the country, though I am not aware where they are to be procured, and I have never seen them in flower.

ALLIUM VIOLACEUM, G. Don; *A. FLEXUM*, Wald. et Kit.

A native of Hungary, introduced in 1819. The flowers are violet-coloured, and they are produced in a loose pendulous umbel; the pedicels, in some cases, bearing bulbs instead of flowers.

ALLIUM ASPERUM, G. Don; *A. CARINATUM*, Red.

This species is a native of the south of Europe, whence it was introduced in 1820; and it differs from the preceding kind, chiefly in having rough leaves.

ALLIUM PALLENS, *Sims, Bot. Mag. t. 1420*; A. LONGISPATHUM, *G. Don.*

A species with pale purple flowers, a native of the south of Europe, introduced in 1779, and flowering in June and July.

ALLIUM FUSCUM, *Wald. et Kit.*

A native of Hungary, introduced in 1820, with brown flowers, which appear in August and September.

ALLIUM PANICULATUM, *Sims, Bot. Mag. t. 1432.*

A native of the South of Europe, introduced in 1780, with pendulous pale pink flowers, which are produced in June and July.

ALLIUM TENUIFLORUM, *Ten.*

This species has pendulous rose-coloured flowers, which appear in June and July. It is a native of Italy, and was introduced in 1824.

ALLIUM GUTTATUM, *Smith.*

The flowers are white, spotted with purple. It is a native of Greece, and it was introduced in 1819.

ALLIUM PULCHELLUM, *G. Don*; A. PANICULATUM, *Red.*; A. COLORATUM, *Spreng.*

A very beautiful species, with violet-coloured pendulous flowers, a native of Russia, flowering in August.

ALLIUM CAUCASICUM, *Sims, Bot. Mag. t. 973.*

A species with erect rose-coloured flowers, a native of Caucasus; introduced in 1810.

ALLIUM NUTANS, *Sims, Bot. Mag. t. 1143.*

A handsome species, nearly allied to *A. senescens*. A native of Siberia, introduced in 1785.

ALLIUM CERNUUM, *Sims, Bot. Mag. t. 1324.*

A very handsome species, with drooping blush-coloured flowers, a native of North America; introduced in 1806, and flowering in June and July.

ALLIUM STELLATUM, *Sims, Bot. Mag. t. 1576.*

A handsome species, with star-like lilac flowers; introduced from North America in 1811.

ALLIUM NARCISSIFLORUM, *Vill.*

A native of France, with large rose-coloured flowers; introduced in 1818.

ALLIUM OCHROLEUCUM, *Wald. et Kit.*

A native of Hungary, introduced in 1816, with cream-coloured flowers, which appear in July.

ALLIUM SUAVEOLENS, *Jacq.*

The flowers are white and purple, and very sweet-scented; they appear from June to September. The species is a native of France, and it was introduced in 1801.

ALLIUM CANADENSE, *Kalm.*

A native of North America, introduced in 1739, with rose-coloured flowers.

ALLIUM MUTABILE, *Red.*

An American species, with blush-coloured flowers.

ALLIUM INCARNATUM, *Spreng.* ; A. AMBIGUUM, *G. Don* ; A. ROSEUM β , *Bot. Mag.* t. 978.

A British species, with rose-coloured flowers, which appear in May and June.

ALLIUM AMGENUM, *G. Don* ; A. CARNEUM, *Ten.*

An Italian species, with fine rose-coloured flowers ; introduced in 1820. In the last four species the umbels are bulbiferous ; that is, they frequently produce bulbs instead of flowers.

ALLIUM COWANI, *Lindl.*

A very beautiful half-hardy species, a native of Chili ; introduced in 1824, flowering in May. The flowers are white, and they are very large.

ALLIUM VICTORIALIS, *Lin.*

This species has no beauty to recommend it, and it has a peculiarly rank and disagreeable smell ; but it is curious, from its root being “ considered by the Bohemian miners, when worn as an amulet, to be a safeguard against the attacks of impure spirits, to which they deemed themselves exposed, and among them it was surnamed Siegwurl (the root of victory), and hence Victorialis.”—*Bot. Mag.* vol. 30. This species is a native of Germany and other parts of central Europe.

ALLIUM TATARICUM, *Bot. Mag.* t. 1142 ; A. ODORUM, *G. Don.*

A Siberian species, with sweet-scented white and purple flowers ; introduced in 1787.

ALLIUM AMPELOPRASUM, *Lin.*, *Bot. Mag.* t. 1385.

A very curious plant, resembling the leek in the leaves ; with a very round head and ample spathe.

GENUS XXI.

CYANELLA, *Lin.* THE CYANELLA.

Lin. Syst. HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth six-cleft, segments unequal. Stamens six, connate at the base ; one larger than the others, and deformed.

DESCRIPTION, &c.—This genus takes its name from the Latin word for blue, a strange reason, for there is only one species that has any blue in its flowers. The species are all natives of the Cape of Good Hope, and they all require a slight protection in British gardens during winter. The genus is easily distinguished by the extraordinary appearance of the stamens, five of which have very short filaments, and erect incurved anthers, which open at the points while the sixth hangs down ; the filament and anther are both very long, and the anther is tongue-shaped, and grooved in the middle. The style bends over this last strangely-shaped anther.

1.—CYANELLA CAPENSIS, *Lin.* THE CAPE CYANELLA.

ENGRAVING.—*Bot. Mag.* t. 568.

SPECIFIC CHARACTER.—Leaves undulated. Scape leafy ; raceme

simple ; branches spreading. Segments of the perianth recurved ; the lower three somewhat larger than the others.

DESCRIPTION, &c.—This very elegant plant has a purple flower, something like that of a small *Ixia*, but the stem bears ten or twelve flowers, or long pedicels spreading widely from the main stem. The species is a native

of the Cape of Good Hope, where it was found growing wild at the foot of the Table Mountains. The bulbs, or corms, which are large or conical, are said to be good to eat when roasted; and it is added, that they are used as food by the natives at the Cape. The species is said to have been introduced in 1768; and if grown in the open ground, it should be slightly protected during winter. It is, however, generally kept in a greenhouse.

2.—CYANELLA LUTEA, *Lin.* THE YELLOW CYANELLA.

ENGRAVING.—Bot. Mag. t. 1252

SPECIFIC CHARACTER.—Leaves linear-lanceolate; scape naked, sub-

racemose; branches erect. Segments of the perianth nearly equal, irregularly rotate, conniving.

DESCRIPTION, &c.—The flowers of this species are yellow, and so different in their form and position, that they do not appear to belong to the same genus as the previous species. They have, however, the same peculiarity in the stamens, and this is quite enough to connect them botanically. This species, like the preceding one, is a native of the Cape, whence it was introduced by Mr. Masson in 1788; and, like *Cyanella capensis*, it requires protection during winter. Both species are generally planted in October, and kept in a greenhouse or frame during winter to flower in spring; and *Cyanella lutea* generally continues in flower for several weeks in succession.

3.—CYANELLA ODORATISSIMA, *Lindl.* THE SWEETEST CYANELLA.

SYNONYME.—*C. lineata*, *G. Don.*

ENGRAVING.—Bot. Reg. t. 1111.

SPECIFIC CHARACTER.—Leaves ensiform. Raceme compound, many-flowered. Segments of the perianth nearly equal, spreading.

DESCRIPTION, &c.—This is by far the most beautiful plant belonging to the genus. The flowers are large, of a most beautiful pink when they first expand, but afterwards fading to a pale blush, and they are very fragrant. They appear in July and August. The bulb is very curious, having two or three deep contractions so as to appear like two or three bulbs joined together. The species is a native of the Cape, whence it was introduced in 1816. It is only half-hardy, and requires protection during winter. In a warm dry situation, and in a sandy soil, it may be planted out in early spring, say in February or March, and protected by a hand-glass till all danger is over from frost; it may then be left exposed till the flowers have faded, and the leaves begin to wither, when the bulb may be taken up and kept dry till the following spring; or it may be put in a pot and kept in a frame or greenhouse, giving it a few weeks' rest by withholding water, or nearly so, till it begins to grow.

OTHER SPECIES OF CYANELLA.

CYANELLA ALBA, *Spreng.*

This species produces its flowers singly. They are white, and they appear in May and June. It is, like the others, a native of the Cape, whence it was introduced in 1825. The culture is the same as that of the other species.

CYANELLA ORCHIDIFORMIS, *Spreng.*

The flowers of this species are said to be blue, and to resemble those of some kind of *Orchis*. The species was figured by Baron Jacquin, and its flowers are said to appear from May to September. It was introduced in 1825.

Don
fig. 8
N. 49

GENUS XXII.

CONANTHERA, *Ruiz et Pavon*. THE CONANTHERA.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth six-parted; segments reflexed. Anthers coalescing at the point, and forming a cone. Capsule ovate, three-celled, and three-valved. Seeds few, sub-rotund.

DESCRIPTION, &c.—This genus differs from the preceding one principally in the anthers, which are so disposed as to form a cone; and hence the name of *Conanthera*, which is derived from two Greek words, one signifying anthers, and the other a cone. There is only one species.

1.—CONANTHERA BIFOLIA, *Ruiz et Pavon*. THE TWO-LEAVED CONANTHERA.

SYNONYMS.—*Bermudiana bulbosa*, *Feuill.*; violet-coloured Conanthera.

ENGRAVING.—Lodd. Bot. Cab. t. 904.

SPECIFIC CHARACTER.—Leaves linear-lanceolate. Scape branched; peduncles two-flowered, alternate. Segments of the perianth ciliated.

DESCRIPTION, &c.—This plant is a native of Chili, where it was first found by Ruiz and Pavon, and it was described by them in the *Flora Peruviana*. The colour of the flower is blue, and the segments of the perianth are narrow, and very much reflexed. The leaves wither before the flowers expand, and only two leaves are produced on each bulb; whence the specific name. The bulbs are eaten by the Peruvians both boiled and raw, and Feuillée states that he found them very good in soup, their taste resembling that of sweet chestnuts. The plants require to be kept in a greenhouse, because their leaves are produced in our winter, and their season of rest is during our summer, generally from July or August, to September or October.

GENUS XXIII.

CUMMINGIA, *D. Don*. THE CUMMINGIA.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth campanulate, six-cleft, deciduous. Anthers emarginate, filaments very short, dilated, and conniving at the base. Capsule three-celled. Seeds spotted.

DESCRIPTION, &c.—This genus has been separated by Professor Don from *Conanthera*, on account of its perianth, which is not divided into distinct segments, but only partially cleft, like the flowers of the *Campanula*. The genus is named in honour of Lady Gordon Cumming, of Altyre.

1.—CUMMINGIA CAMPANULATA, *D. Don*. THE BELL-SHAPED CUMMINGIA.

SYNONYMS.—*Conanthera campanulata*, *Hook.*; *C. bifolia*, *Ker.*

ENGRAVINGS.—Swt. Brit. Flow. Gard. t. 257; Bot. Mag. t. 2496;

Bot. Reg. t. 1193.

SPECIFIC CHARACTER.—Limb of the perianth equal to the tube; segments somewhat reflexed.

DESCRIPTION, &c.—This plant was first raised in England from seeds sent from Chili, at Arno's Grove, Southgate, in 1823. From its general appearance and habit of growth, it was supposed to be the *Conanthera*



Lilium candidum L. *Lilium regale* L. *Lilium longifolium* L. *Lilium tigrinum* L. *Lilium brownii* L. *Lilium henrici* L. *Lilium superbum* L. *Lilium philadelphicum* L. *Lilium canadense* L. *Lilium columbianum* L. *Lilium marylandicum* L. *Lilium virginicum* L. *Lilium missouriense* L. *Lilium michiganense* L. *Lilium pennsylvanicum* L. *Lilium marylandicum* L. *Lilium virginicum* L. *Lilium missouriense* L. *Lilium michiganense* L. *Lilium pennsylvanicum* L.

bifolia of Ruiz and Pavon, but it was afterwards found, when that plant flowered at Messrs. Loddiges', to have a more bell-shaped perianth, and three leaves instead of two. The flower of *Cummingia campanulata* is blue, and greatly resembles that of a Hyacinth; it appears in May or June. The plant is generally considered to be only half-hardy, and to require protection during winter; but as it comes from the mountains of Chili, it would probably bear the open air all the year in the neighbourhood of London.

2.—CUMMINGIA TRIMACULATA, *D. Don*. THE THREE-SPOTTED CUMMINGIA.

ENGRAVINGS.—Swt. Brit. Flow. Gard. 2nd ser. t. 88.

SPECIFIC CHARACTER.—Limb of the perianth larger than the tube, and three-spotted.

DESCRIPTION, &c.—This very elegant plant differs from the preceding species chiefly in the alternate segments having each a dark spot at the base. The flower-stem is very much branched and many-flowered, and the leaves, which are long and slender, are deeply channelled, so as to have a projecting rib up the back. There are generally three of these spreading grass-like leaves, which rise from the root, and are much shorter than the stem of the flowers, which appear in December. The bulbs of this species were collected near Valparaiso by a lady, daughter of the British vice-consul at that place, and they were sent to England in 1829. The native name is Paxero, or Paterita. The species requires to be kept in the greenhouse on account of its flowering in winter.

OTHER SPECIES OF CUMMINGIA.

C. TENELLA, *D. Don*.

Bulbs of this plant were imported with those of the preceding species. The flowers are much smaller and not spotted, and the fringe of the alternate segments is longer and finer.

GENUS XXIV.

TRITELEIA, *Hook*. THE TRITELEIA.

Lin. Syst. HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth tubular, somewhat funnel-shaped. Stamens six, inserted in two series, the upper ones opposite to the petals. Ovary generally stipitate, sometimes sessile, many-seeded. Stigma 3-lobed.

DESCRIPTION, &c.—The beautiful plants which compose this genus were named *Triteleia* by Sir W. J. Hooker, from all the parts which compose the flowers being arranged in threes. Their general appearance bears a great resemblance to the flowers of the genus *Brodiaea*, and they are all natives of America.

1.—TRITELEIA LAXA, *Benth*. THE LOOSE-FLOWERED TRITELEIA.

ENGRAVING.—Bot. Reg. t. 1685.

SPECIFIC CHARACTER.—Leaves linear, glaucous, larger than the scape. Pedicels lax. Tube of the perianth narrowing at the base.

Ovary stipitate. Filaments crested at the base. Umbel many-flowered.

DESCRIPTION, &c.—This very beautiful plant grows about eighteen inches high, each bulb producing at least two umbels, but generally three, of from six to twelve or twenty-four flowers each. The flowers "grow in a lax

umbel; but, notwithstanding the length of their stalks, they stand nearly erect. The scape is, however, apt to be procumbent if not supported." The flowers are very handsome, and greatly resemble those of *Brodiaea grandiflora*. The species is a native of the western coast of South America, whence it was brought in 1834. It is quite hardy, but it should be grown in sandy peat, or heath-mould. When once planted it should not be disturbed.

2.—TRITELEIA UNIFLORA, Lindl. THE SINGLE-FLOWERED TRITELEIA.

SYNONYME.—? *Milla uniflora*, Grah.

ENGRAVINGS.—Bot. Reg. t. 1921; Bot. Mag. t. 3327

SPECIFIC CHARACTER.—Leaves linear, nearly equal to the scape. Umbel one-flowered. Pedicel filiform, twice as long as the flower.

DESCRIPTION, &c.—This very elegant species is quite distinct from the preceding one, though the shape of the flowers is nearly the same, from its flowers being produced singly, and from the great length of their filiform pedicels. The flowers, which are produced in June, are very delicate and beautiful, being of a pale sky-blue; but, unfortunately, Dr. Lindley tells us they have a strong smell of garlic. The species is a native of Mendoza, where it was first found by Dr. Gillies. It is rather more tender than the preceding species, but still it may be grown in the open ground in a dry soil, if slightly protected during winter. It is said to have been introduced in 1836; but if it is the same plant as *Milla uniflora*, it was introduced in 1832.

GENUS XXV.

HESPEROSCORDUM, Lindl. THE MISSOURI HYACINTH, OR ONION OF THE WEST.

Lin. Syst. HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth sub-campanulate or rotate, 6-cleft, with the pedicel articulated. Stamens six, all fertile; filaments dilated and membranaceous, equal, projecting beyond the throat, subconnate at the base. Ovary sessile, 3-celled, many-seeded, triangular at the apex. Style cylindrical, articulated with the ovary. Seeds black, angular, somewhat crested.

DESCRIPTION, &c.—Beautiful plants, natives of California, producing large umbels of elegantly-shaped flowers. The name of the genus signifies literally, onion of the west.

1.—HESPEROSCORDUM LACTEUM, Lindl. THE MILK-WHITE MISSOURI HYACINTH.

ENGRAVING.—Bot. Reg. 1639

SPECIFIC CHARACTER.—Leaves linear, channelled, larger than the scape. Involucre in many slender awl-shaped segments.

DESCRIPTION, &c.—An elegant species with a very slender cylindrical stem, supporting an umbel of many star-like milk-white flowers. The leaves are long, and very weak, bending downwards; but the stem and the pedicels of the flowers, notwithstanding their apparent fragility, stand quite erect. The species is a native of California, whence it was sent home by Douglass in 1833. It is quite hardy in British gardens.

OTHER SPECIES OF HESPEROSCORDUM.

H. HYACINTHUM, Lindl.

The flowers are sky-blue, and are produced in a crowded umbel, the stalks of the outer flowers being curved downwards, and not larger than the flowers themselves. It is a native of North America, where it was first found by Pursh, who supposed it to be the same as *Brodiaea grandiflora*; it was introduced in 1827, but was soon lost, and is not now in British gardens. It flowers in July and August.

GENUS XXVI.

LEUCOCORYNE, *Lindl.* THE LEUCOCORYNE.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth tubular, with a six-parted regular limb, and a three-leaved corona in the orifice. Anthers frequently sterile. Capsule 3-celled, many-seeded.

DESCRIPTION, &c.—The name of this genus is derived from two Greek words, viz. *leukos*, white, and *coryne*, a club; and it is said to allude to the sterile anthers, but how is not explained.

1.—LEUCOCORYNE ODORATA, *Lindl.* THE SWEET-SCENTED LEUCOCORYNE.

ENGRAVING.—Bot. Reg. t. 1293.

SPECIFIC CHARACTER.—Leaves linear, glaucous. Limb lacinate, lanceolate. Stamens sterile, subulate, obtuse.

DESCRIPTION, &c.—A very sweet-scented plant, with star-like white flowers, which are produced singly. It is a native of Valparaiso, whence it was introduced in 1826. It should be grown in a mixture of sandy peat and loam, and it requires a little protection during winter.

2.—LEUCOCORYNE IXIODES, *Lindl.* THE IXIA-LIKE LEUCOCORYNE.SYNONYME.—*Brodiaea ixioides*, *Sims.*ENGRAVINGS.—Bot. Mag. t. 2382 ~~and our fig.~~

SPECIFIC CHARACTER.—Segments of the limb fringed, and those of the crown subulate.

DESCRIPTION, &c.—A beautiful plant, growing about a foot high, with lilac flowers. It is a native of Chili, whence it was introduced in 1822. It should be grown in sandy peat, and it flowers in October. It is generally kept in the greenhouse, but more on account of its late flowering than from its being tender.

GENUS XXVII.

MILLA, *Cav.* THE MILLA.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth salver-shaped, tube elongately-campanulate; limb flat, six-parted; segments obtuse, three much narrower than the others. Stamens projecting beyond the mouth of the tube; anthers linear, smooth, conniving into a cone. Ovary elongated, triangular, 3-celled, many-seeded, with a filiform exserted style; stigma 3-lobed, fimbriated. Seeds crested.

DESCRIPTION, &c.—This genus was named by Cavanilles, Professor of Botany at Madrid, in honour of Julian Milla, head gardener to the King of Spain.

1.—MILLA BIFLORA, *Cav.* THE TWO-FLOWERED MILLA.

ENGRAVING.—Bot. Reg. t. 1555; and our fig. 6, in Plate 49.

SPECIFIC CHARACTER.—Leaves cylindrical, fistular, awl-shaped at the point. Pedicels three times as long as the flowers.

DESCRIPTION, &c.—A very beautiful plant, with milk-white flowers, which are always produced in pairs in a wild state, but in umbels in a state of cultivation. The flowers are large, and of such a snowy whiteness, as to

attract the attention of the visitors to the summer horticultural fête at the Chiswick gardens in 1841, very few passing without inquiring the name of "that beautiful flower." It is a native of the mountainous parts of Mexico, and will probably prove hardy in British gardens, though it has as yet been kept in a frame during winter. The flowers continue on the plant a long time, and when once expanded, they do not close up at night.

MILLA UNIFLORA, *Grah., Bot. Mag. t. 3327* [^]

probably This is ~~evidently~~ the same plant as that already described in p. 242, under the name of *Triteleia uniflora*. It does not appear to have much right to either of the names already assigned to it; but what genus it really belongs to, must be left for botanists to decide.

*Don
fig.
2. 18. 44*

CHAPTER VII.

LILIACEÆ.

ESSENTIAL CHARACTER.—Perianth six-parted, scarcely cohering into a tube. Stamens 6, inserted in the perianth. Anthers opening inwardly. Ovary superior, 3-celled, many-seeded. Style one; stigma generally 3-lobed.

DESCRIPTION, &c.—The beautiful plants belonging to this order are all so well known as to need little description: the tulips and lilies are among the commonest ornaments of our gardens; and the showy Crown Imperial, and more humble Fritillaries, are scarcely less common. The plants are natives of different parts of the world, but principally of the temperate regions of Europe and Asia; and they have all showy flowers.

GENUS I.

TULIPA, *Lin.* THE TULIP.

Lin. Syst. HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth six-parted, campanulate, erect. Stamens six, inserted in, and shorter than, the perianth; filaments equal in length to the ovary, which is prismatic, or obtusely triangular. Stigma sessile, somewhat crested. Capsule superior. Seeds flat, and disposed in two series.

DESCRIPTION, &c.—Though few plants are better known than the garden Tulip, the other species of the genus are comparatively unknown; and many of my readers are probably not aware that any other tulips than the varieties of *T. Gesneriana* exist. The other species differ indeed so widely from the cultivated kinds, that they may be easily supposed to belong to another genus. The name of the genus is derived from the Persian name for *Tulipa Gesneriana*, that being the species first introduced into Europe.

1.—TULIPA BIFLORA, *Lin.* THE TWO-FLOWERED TULIP.

ENGRAVINGS.—Bot. Reg. t. 535; and our fig. 8 in Plate 50.

SPECIFIC CHARACTER.—Leaves two, linear, glaucous. Stem glabrous.

Segments of the perianth bearded at the base. Pistil acutely prismatic. Stigmata obscurely channelled. Capsule trigonally globular, mucronate.

DESCRIPTION, &c.—This is the smallest species of the genus, and it is distinguished by never having more than two leaves, which are of a bluish-green, and also by its capsule, which is globular, but somewhat three-cornered, and ending in a small mucro or point. The segments of the perianth are white, with a yellow centre,



9 Tulipa stellata

and bearded at the base; the outer ones are more spreading and narrower than the inner ones, and they are faintly tinged with a violet blue on the outside. The white fleshy part of the bulb, when it withers, after producing a new one immediately below it, leaves the hard dry skin which covered it to shrivel up; and thus the exuviae of the old bulbs, when the plant has remained several years in the ground, forms a series of rings like the cast-off skin of an adder, which has a very singular appearance when the plant is taken up. These new bulbs are quite distinct from the offsets, which are formed by the side of the old bulb, and are intended to become new plants. The species is a native of Moscow, whence it was received with *T. Celsiana* in 1806; both being natives of the southern shore of the Caspian Sea, and the banks of the Wolga. The latter species, however, grows in a soil different from that of *T. biflora*, which is never found but in clayey, saline places. "The bulbs are eaten raw by the Calmucks, especially by their children." The flowers, which are fragrant, appear earlier than those of all the other tulips. The name of *biflora* is not very appropriate, as there are sometimes three or four flowers on a scape, and sometimes only one. It is quite hardy.

2.—TULIPA CELSIANA, Spreng. M. CELS'S TULIP.

SYNONYMES.—*Tulipa Breyneria*, *Bot. Mag.*; *Tulipa capensis*, *Hart.*

the name of *Tulipa capensis*.

ENGRAVINGS.—*Bot. Mag.* t. 717; and our *fig.* 7 in Plate 50, under

SPECIFIC CHARACTER.—Leaves three or more; linear-lanceolate, conduplicate, and sheathing at the base. Scape 2-flowered.

DESCRIPTION, &c.—Great confusion exists respecting this tulip, which is a native of Siberia, like the preceding species; but it has been frequently confounded, from a resemblance in the flowers, with *Melanthium uniflorum*, which is a native of the Cape. The flower of *Tulipa Celsiana* is fragrant. The species is quite hardy, but it should be grown in a light sandy soil, differing in this respect materially from *Tulipa biflora*, which only grows well in loam.

3.—TULIPA TRICOLOR, Ledeb. THE THREE-COLOURED TULIP.

SYNONYME.—*T. patens*, *Agardh.*

ENGRAVING.—*Bot. Mag.* t. 3887.

SPECIFIC CHARACTER.—Leaves two, oblong-linear; stem sheathing,

glaucous. Segments of the perianth acute, widely-spreading, ciliated at the base. Filaments bearded.

DESCRIPTION, &c.—A very handsome plant, with large, widely-opened, white flowers, which are slightly tinged with green and yellow. The species is a native of the Altaic mountains, whence it was introduced in 1823. It is quite hardy, but it grows best in dry stony places, and it flowers in April.

4.—TULIPA STELLATA. THE STARRY TULIP.

ENGRAVINGS.—*Bot. Mag.* t. 2762; and our *fig.* 9 in Pl. 50.

SPECIFIC CHARACTER.—Leaves linear-lanceolate, subconvolute, glaucous. Flowers solitary or twin; erect, oblong in the bud; when

open, segments spreading horizontally; segments lanceolate, obtuse, slightly concave.

DESCRIPTION, &c.—This very remarkable species is a native of Nepaul, and it is so unlike most other tulips, as to be scarcely recognisable as belonging to that genus. It is remarkable for its star-like appearance, occasioned by the narrowness of the segments of its perianth, "and their spreading out almost flat when the sun shines," though they close again in the evening. It is generally kept in the greenhouse, as it flowers in March; but it appears hardy enough to bear the open air, if it were not for the earliness of its flowering.

5.—TULIPA MONTANA, *Lindl.* THE MOUNTAIN OR CRIMSON TULIP.

ENGRAVINGS.—Bot. Reg. t. 1106; and our *fig.* 6 in Plate 50.

SPECIFIC CHARACTER.—Leaves several, oblong-lanceolate, glaucous, channelled, and somewhat stem-clasping, undulated at the margins,

acuminate. Perianth somewhat egg-shaped. Segments converging. Bulb very woolly at the apex.

DESCRIPTION, &c.—This is perhaps the handsomest of all the tulips in its wild state, from the brilliant crimson of its flowers, which afford a fine contrast to its glaucous leaves. The bulbs of most of the preceding species are more or less woolly in their integuments; but this is more so than all the rest, as it is densely covered with a sort of down at the apex. The species is a native of the mountains of Persia, whence it was introduced in 1826. Like most of the preceding species, it flowers in April. It is quite hardy, and it should be grown in a sandy or stony soil, and in an open situation, as it requires abundance of free air to make its colour fine.

6.—TULIPA SYLVESTRIS, *Lin.* THE WILD TULIP.

SYNONYMES.—*T. turcica*, *Roth.*; *T. florentina*, *Hart.*; *T. transagana*, *Brot.*; the French tulip.

ENGRAVINGS.—Eng. Bot. t. 63; Bot. Mag. t. 1202; Swt. Brit. Flow. Gard. t. 186; and our *fig.* 3 in Pl. 50.

SPECIFIC CHARACTER.—Leaves 3-4, ovate-lanceolate, glabrous, green. Scape smooth, one-flowered. Perianth nearly closed at the apex, and somewhat drooping when it first expands, but becoming gradually erect and with the segments somewhat spreading.

DESCRIPTION, &c.—This beautiful species, the flowers of which are of a bright yellow and delightfully fragrant, is common in France and other parts of the Continent. It is also said to grow wild in England. It is quite hardy, and will grow in any soil and situation. Its long slender stalk and drooping flowers (for they only become erect a short time before they fade) give it a very elegant appearance, while its fragrance renders it a desirable flower for a bouquet. When once planted, it requires no farther care, for we have two or three bulbs, which were sent to Mr. Loudon about twelve years ago from France, and which have flowered freely every year since without taking up, or, in short, anything being done to them.

7.—TULIPA CLUSIANA, *Redouté.* CLUSIUS'S OR THE SICILIAN TULIP.

SYNONYMES.—*T. rubro-albo*, *Brot.*; *T. variegata*, *Rudb.*; *T. persica*, *Gerard* and *Park.*; *T. p. præcox*, *Clus.*; Persian tulip.

ENGRAVINGS.—Lil. Red. t. 37; Bot. Mag. t. 1390; and our *fig.* 4 in Plate 50.

SPECIFIC CHARACTER.—Leaves numerous, lanceolate-attenuated, convolutely-concave, glaucous. Perianth oblong and connivent in the bud, but recurvedly spreading when expanded. Filaments naked.

DESCRIPTION, &c.—A very beautiful species, with white flowers, which are pink at the back, and have a black ring in the centre, like those of *Tulipa oculis-solis*. It was introduced very early, as we find it mentioned by Gerard, who wrote in 1597, and who calls it the Persian tulip. It is found wild in Sicily, Italy, Spain, and Portugal; and it is highly deserving of cultivation, though it is more tender, and more difficult to preserve during wet winters, than most of the other species. It succeeds best when it is kept in a greenhouse or frame during winter, and planted out in March; it will then flower in April or May; and as soon as its flowers fall, and the points of its leaves begin to turn yellow, the bulbs should be taken up, and kept dry till October, when they should be planted in pots to keep through the winter. The pots should be well drained, and the soil should be a sandy loam.

8.—TULIPA OCULIS-SOLIS, *Agen.* THE SUN'S-EYE TULIP.

SYNONYMES.—*T. agenensis*, *Red.*; *T. flore rubro*, *Gerard*; *T. bombycina*, *Park.*; *Occhio di Sole*, *Ital.*

VARIETY.—*T. O. præcox*, *B. R.* 1419; and *Swt.* 157.

ENGRAVINGS.—*Red. Lil.* t. 219; *Bot. Reg.* t. 204; and our *fig.* 1

in Plate 50.

SPECIFIC CHARACTER.—Leaves four, subciliated. Scape and flower quite smooth; segments of the perianth conniving; stigmata villosely fimbriated. Integuments of the bulb woolly.

DESCRIPTION, &c.—This species is nearly allied to *T. Gesneriana*, but it is easily distinguished by its black centre. The flower is always erect and scentless, opening so as to form a large cup. It differs from the species which it most nearly resembles in its flowers, in the woolly integuments of its bulb, in which respect it resembles *T. montana* and its allied species. *T. oculis-solis* is quite hardy, and requires no particular care in its culture. It is a native of the north of Italy, and some parts of France; and it was introduced in 1816. The species flowers rather later than the common garden tulips, but the variety flowers in April.

9.—TULIPA SUAVEOLENS, *Roth.* THE DUC VAN THOL TULIP.

SYNONYMES.—*T. pumilio*, *Lobel.*; *T. dubia*, *Clus.* Early dwarf tulip.

ENGRAVINGS.—*Bot. Mag.* t. 839; and our *fig.* 5 in Plate 50.

SPECIFIC CHARACTER.—Leaves three or more, glaucous, close to the stem. Scape one-flowered. Flower erect, somewhat spreading.

DESCRIPTION, &c.—The Van Thol tulip is well known by all the lovers of flowers who are resident in towns; as it is one of the commonest flowers for forcing in January and February. Even in the open ground it generally flowers in March. There are several varieties, some with double flowers, and some pale and almost pink, and some without any fragrance—the last, though sold under the name of Van Thol tulips, being in fact the dwarf variety of *Tulipa oculis-solis*. The true Van Thol tulip may always be known by its fragrance, as indicated by its specific name *suaveolens*. Though quite hardy, it seldom flowers well in England for two years in succession, and consequently a great quantity of roots are imported every year from Holland. The bulbs should be planted in October, and if wanted to flower early, they should be kept in pots, in frames, or in a greenhouse, so as just to preserve them from the frost, and watered freely. Thus treated, they will flower in January or February without fire-heat. In the open ground they only need planting in October.

10.—TULIP GESNERIANA, *Lin.* GESNER'S, OR THE COMMON GARDEN TULIP.

ENGRAVINGS.—*Bot. Reg.* t. 380; vol. for 1838, t. 46; *Bot. Mag.* t. 1311; and our *figs.* 1 to 4, in Plate 51.

SPECIFIC CHARACTER.—Leaves three, ovate-lanceolate, subconvolute;

scape glabrous. Perianth erect, broadly campanulate, segments obtuse. Ovary prismatic columnar. Stigma capitate, three-lobed, lobes crested, revolute, and somewhat channelled.

DESCRIPTION, &c.—The common garden tulip is a flower that has always excited a great deal of interest, and which was at one time made an object of gambling speculation. It was brought to Europe from Persia in 1559, nearly three hundred years ago, and it was cultivated at Constantinople. From this city it found its way over Europe, under the name of the Turkish tulip; and it was first botanically described by Gesner, a Swiss botanist, residing at Zurich, after whom it has since been very appropriately named by Linnæus. About a century after its first introduction, it became an object of commercial speculation, and very large sums (sometimes, it is said, as much as £500) were given for a single bulb. About the close of the seventeenth and the beginning of the eighteenth centuries, the tulip mania was at its height; and, though since that period it has greatly declined, yet still larger prices are given for tulips than for most other florists' flowers. Holland has long been

famous for raising new kinds of tulips, and many of the bulbs sold in the seed-shops are sent over every year from that country, though many are raised from seed in Great Britain. The number of varieties is so great that it would be impossible to enumerate them, but the kinds sold in Britain may be divided into three classes: viz. Bizards or Bizarres, having a yellow ground, broken with purple or red, as shown in *fig. 2*, in Plate 51; Rose tulips, which have a white ground, broken with cherry colour, as shown in *fig. 3*; and Byblœmens, which are white, broken with purple, as shown in *fig. 4*. All these are subdivided into flamed and feathered; the flamed being those which are somewhat striped, as shown in *fig. 4*, and the feathered those that are only broadly marked on the edge, as shown in *figs. 2 and 3*. The species, in its natural or unbroken state, is shown in *fig. 1*.

The mode of raising tulips from seed practised in England was till lately a very strange one, and quite unworthy of the advanced state of science at the present day. The seed was saved from the unbroken flowers, or breeders, as they were termed, and consequently the young plants were always self-coloured. To make them break, that is to vary their colours, the strangest methods were resorted to; sometimes they were planted for one season in a hotbed, and the next in the poorest soil that could be procured; and sometimes they were removed to a distant county, twenty or thirty miles from where they were first grown, and then brought back again; but in spite of all the care bestowed on them, they were generally from seven to ten or twelve years before they showed any symptoms of variegation, and some never did at all. A more rational method is now pursued; and the seeds of the handsomest tulips being saved, showy flowers are frequently produced the second year; and bulbs of three years old often produce flowers fit for winning prizes.

A bed for choice tulips is generally prepared by excavating a pit a foot and a half or two feet deep; a piece of ground in an open, airy situation, and dry at bottom, having been chosen. In this pit a layer is placed of thoroughly rotten horse-dung, at least two years old, and generally the remains of an old hotbed, and the bed is filled in, to within one inch of the top, with rich sandy loam; old loamy turf, chopped fine, and mixed with sand and a little rotten dung, is the best where it can be procured. The surface of the bed is then covered with sharp or drift sand, and in this the bulbs are planted about six inches apart every way, and the bed is filled up so as to raise it about three inches above the surface, and to bury the bulbs about four inches deep. The bed should be highest in the middle, and slope to both sides to throw off the rain. The bulbs are generally planted in October; and as the tulip is very hardy, it seldom requires any protection, unless the winter should be very unfavourable, either from severe frosts, or almost constant rain, in which case the bed may be protected by being hooped over, and then covered with mats, care being taken to leave a part to open when the weather is fine. When the plants are near flowering, a frame should be placed round them to support an awning to shield them from the sun and rain. As the bed is generally four feet wide, the frame, which includes a walk round it, is about twelve feet wide; and the length may vary according to the extent of the ground or the number of bulbs to be planted.

When the flowers fall, and the leaves begin to turn yellow at the tips, the bulbs may be taken up, and laid on shelves, with the root end uppermost, to dry. When the fibrous roots are sufficiently withered to allow them to be rubbed off, the bulbs may be placed in drawers or boxes, where they must be kept in a dry situation till the season for planting them arrives.



Tulipa 'The Duke of Sutherland'
 The Duke of Sutherland
 by J. G. Smith

11.—TULIPA CORNUTA, *Redouté*. THE HORNED TULIP.SYNONYME.—*T. chinensis*, *Hort.* ; *T. undulata*, *G. Don.*ENGRAVINGS.—*Red. Lil. t.* 445 ; *Bot. Reg. t.* 127 ; our *fig. 2*, in Plate 50, and *fig. 5*, in Plate 51.

SPECIFIC CHARACTER.—One-flowered. Perianth fusiform, campanulate, and widely spreading ; segments very long, and tail-like.

DESCRIPTION, &c.—This very singular tulip is more curious than beautiful, but it is well worth growing, not only from its remarkable appearance, but for the long time that it continues in flower. It flowers rather later than the common tulips. It is a native of the Levant, whence it was introduced in 1816. It is quite hardy, and may be grown in any common garden soil, without taking it up or affording it any kind of protection during winter. The parrot tulips (see *fig. 5*, in Plate 51) are said to be hybrids between this species and the wild yellow tulip, *T. sylvestris*.

OTHER SPECIES OF TULIP.

The following species have most of them been introduced ; but they are not so common as those already described.

T. ALTAICA, *Ræm. et Schultes* ; T. REPENS, *Fisch.*

A dwarf species, with yellow flowers, nearly allied to *T. Celsiana*, a native of the Altaic mountains, whence it was introduced in 1822. It is figured in Sweet's British Flower Garden, 2nd series, t. 97.

T. SAXATILIS, *Reich.*

A species with yellow flowers, a native of Crete, introduced in 1827.

T. BIEBERSTEINIANA, *R. et S.*

A native of Siberia, with yellow and purple flowers, introduced in 1820.

T. MACULATA, *R. et S.*

A native of Spain, with yellow flowers spotted with green.

T. MEDIA, *R. et S.*

The flowers are scarlet and white.

T. PERSICA, *Bot. Reg. t.* 1149.

A native of Persia, resembling the Van Thol tulip.

T. PUBESCENS, *Spreng.* ; *Swt. Brit. Flow. Gard. t.* 78.

The flowers are variegated, and the stalks woolly.

T. BONAROTIANA, *Reb.* ; *Swt. Brit. Flow. Gard. 2nd ser. t.* 116.

A native of Italy, with red flowers, introduced in 1827.

T. STRANGULATA, *Reb.*

Flowers variegated. No explanation is given of this strange name, which signifies strangled.

T. SCABRISCAPA, *Bot. Reg. t.* 1990.

The flowers are variegated, and the flower-stems very rough, whence the name.

All these species are natives of Europe and Asia ; as no tulip has yet been found wild in Africa, America, or Australia.

GENUS II.

FRITILLARIA, *Lin.* THE FRITILLARY.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth campanulate, drooping, 6-parted, each segment being furnished with a honey-bearing cavity above its claw. Stamens nearly as long as the perianth. Capsule 3-celled. Seeds numerous, flat.

DESCRIPTION, &c.—All the kinds of *Fritillaria* have drooping, bell-shaped flowers, with honey-drops hidden in the cavity of each petal. Some of the species have very little of this secretion; but in others, as in the Crown Imperial, it abounds so as to drop when the flower is shaken. Modern botanists, indeed, place this last-mentioned flower in a separate genus; but as its new name is at present very little known, I have thought it best to retain its old appellation in the following pages. The name of *Fritillaria* is from *Fritillus*, dice, in allusion to the chequered flowers of most of the species.

1.—FRITILLARIA MELEAGRIS, *Lin.* THE CHEQUERED, OR COMMON FRITILLARY.

SYNONYME.—*F. variegata*, *Ger.*

ENGRAVINGS.—*Eng. Bot.* t. 622; and our *fig.* 5, in Plate 52.

SPECIFIC CHARACTER.—Leaves linear-lanceolate, alternate. Scape 1-flowered. Nectary linear.

DESCRIPTION, &c.—This well-known species has a small roundish bulb, an erect stem, about a foot high, and one solitary drooping flower. The nectary is a short linear furrow, the cavity of which is filled with honey. This species is a native of England, growing freely in many places, and particularly, as I have been informed by my kind friend, Mr. Lambert, near the Duke of Wellington's seat at Strathfieldsaye. It generally grows wild near a river, or in a moist meadow; and it never attains a large size in a dry soil. There are several varieties, differing only in the colour, and some are very nearly white.

2.—FRITILLARIA TENELLA, *G. Don.* THE SLENDER FRITILLARY.

SYNONYMES.—*F. racemosa minor*, *Sims*; *F. orientalis*, *Bieb.*; *F. Meleagris minor*, *Pallas*; *F. viperius*, *Trew*; Oriental Fritillary.

ENGRAVING.—*Bot. Mag.* t. 1216.

SPECIFIC CHARACTER.—Leaves lanceolate-ligulate, glaucous. Scape 2-flowered. Flowers small, nectaries roundish-oblong.

DESCRIPTION, &c.—The flowers of this species are much smaller and less showy than those of *F. meleagris*, though they are more numerous. It is a native of Mount Caucasus, the Crimea, and the banks of the Wolga. It was introduced in 1824, and it is quite hardy in British gardens.

3.—FRITILLARIA LATIFOLIA, *Willd.* THE BROAD-LEAVED FRITILLARY.

SYNONYMES.—*F. esculenta*, *Bieb.*; *F. Persica*, *Pallas*.

ENGRAVING.—*Bot. Mag.* t. 1207.

SPECIFIC CHARACTER.—Leaves oblong-lanceolate, numerous. Scape 1-flowered. Nectaries very large, roundish.

DESCRIPTION, &c.—A handsome species, resembling *F. Meleagris* in the size and general appearance of the flower, but differing in the size and breadth of the leaves. It was introduced in 1604, and it is a native of the same countries as the preceding species.



1. *Fritillaria imperialis* 2. *Fritillaria kotschyana* B. 3. *Fritillaria kotschyana* 4. *Fritillaria kotschyana*
 5. *Fritillaria kotschyana* 6. *Fritillaria kotschyana* 7. *Fritillaria kotschyana* 8. *Fritillaria kotschyana*

4.—FRITILLARIA NERVOSA, *Spreng.* THE NERVED-LEAVED FRITILLARY.SYNONYME.—*F. latifolia minor*, *Bot. Mag.*ENGRAVINGS.—*Bot. Mag.* t. 853; *Red. Lil.* t. 51.

SPECIFIC CHARACTER.—Leaves green, few, lanceolate-oblong. Segments of the perianth oblong-ovate, somewhat incurved, obtuse.

DESCRIPTION, &c.—Very like the last species, but with the flowers and bulb larger, though the leaves are neither so numerous nor so large. Neither its native country nor the year of its introduction is known, and it is therefore probably only a garden variety of *F. latifolia*.

5.—FRITILLARIA LUTEA, *Bieb.* THE YELLOW FRITILLARY.SYNONYMES.—*F. latifolia* γ *lutea*, *Bot. Mag.*; *F. esculenta*, *Adam.*ENGRAVINGS.—*Bot. Mag.* t. 1538; and our *fig. 7* in *Pl.* 52.

SPECIFIC CHARACTER.—Leaves green, lanceolate. Segments of the perianth ovate. Capsule obtusely angular.

DESCRIPTION, &c.—This is probably also only a variety of *F. latifolia*, as all these kinds, which botanists have made different species, are found growing spontaneously and close to each other on Mount Caucasus, and they are all quite hardy in British gardens. This kind was introduced in 1812.

6.—FRITILLARIA NIGRA, *Lob.* THE BLACK FRITILLARY.SYNONYMES.—*F. pyrenaica*, *Bot. Mag.*; *F. hispanica*, *Park.*; *F. aquitana*, *Clus.*ENGRAVINGS.—*Bot. Mag.* t. 664; and our *fig. 6* in *Plate 52*, under the name of *F. pyrenaica*.

SPECIFIC CHARACTER.—Leaves distant, subcoriaceous, glaucous, linear-lanceolate. Scape 1-flowered. Segments of the perianth recurved and spreading at the tip. Nectary roundish.

DESCRIPTION, &c.—This species is easily distinguished by the leathery texture of the flower and leaves, and the disagreeable smell of the former. It is quite hardy. It is a native of the Pyrenees, and was introduced in 1596.

7.—FRITILLARIA RACEMOSA, *Lin.* THE BRANCHING FRITILLARY.ENGRAVING.—*Bot. Mag.* t. 952.

SPECIFIC CHARACTER.—Raceme erect, 4—9-flowered, leafy.

DESCRIPTION, &c.—This species is easily distinguished by the number of flowers produced on one scape, and by their being intermixed with leaves. It agrees with the preceding species in the leathery texture of its flowers, but differs in having no unpleasant smell. It is a native of Russia, and was introduced in 1605.

8.—FRITILLARIA PERSICA, *Lin.* THE PERSIAN FRITILLARY.SYNONYMES.—*F. racemosa* β , *Mill.*; *F. minima*, *Sweet.*; *F. ramosa*, *Moris.*; *Lilium persicum*, *Bank.*; *L. susianum*, *Clus.*ENGRAVINGS.—*Bot. Mag.* t. 1537, and t. 962; and our *figs. 2* and *3*in *Plate 52*.

SPECIFIC CHARACTER.—Leaves numerous, lanceolate. Raceme many-flowered, leafy.

DESCRIPTION, &c.—A very handsome plant, but differing so widely from others of the genus, as scarcely to be recognised as belonging to it. It varies in length from six inches to three feet, bearing from twelve to fifty flowers, which grow in a pyramidal form. It is of Persian origin, but it was brought to this country from Turkey before 1596. It is quite hardy. Our *fig. 3* in *Plate 52* is the species, and *fig. 2*, a variety with pink flowers called *F. persica minor*.

9.—FRITILLARIA LEUCANTHA, *Graham.* THE WHITE-FLOWERED FRITILLARY.SYNONYME.—*Imperialis leucanthia*, *Fisch.*ENGRAVINGS.—*Bot. Mag.* t. 3083; and our *fig.* 4 in Plate 52.

SPECIFIC CHARACTER.—Flowers solitary, axillary, or terminal.

Leaves ovate, attenuated at the apex, and drawn out into a tendril; sometimes verticillate.

DESCRIPTION, &c.—This species is remarkable both for its white flowers and its curious leaves, which are drawn out into a kind of tendril at the apex. It is a native of the Altaic mountains, whence it was introduced in 1830. It is quite hardy, and may be planted in the open garden, where it flowers in September.

10.—FRITILLARIA OBLIQUA, *Ker.* THE OBLIQUE-LEAVED OR VIOLET-FLOWERED FRITILLARY.ENGRAVINGS.—*Bot. Mag.* t. 857; and our *fig.* 8 in Plate 52.

SPECIFIC CHARACTER.—Leaves glaucous, numerous, twisted, oblique.

Scape 2-flowered. Perianth ovate, campanulate, segments obovate-oblong, curving inwards.

DESCRIPTION, &c.—A curious species, with dark purple flowers, which resemble those of *F. persica*, but are much larger. Its native country and the year of its introduction are unknown, but it seems nearly allied to *F. persica*.

11.—FRITILLARIA IMPERIALIS, *Lin.* THE CROWN IMPERIAL.SYNONYMS.—*Corona imperialis*, *Trew.*, and *Park.*; *Tutsai*, *Clus.*ENGRAVINGS.—*Bot. Mag.* t. 664; and t. 1215; *Red. Lil.* t. 131; and our *fig.* 1 in Plate 52.

SPECIFIC CHARACTER.—Leaves numerous, and rising so as to form a crown above the flowers, oblong-lanceolate; raceme verticillate. Nectaries globular.

DESCRIPTION, &c.—This species is a native of Persia, from which country, like so many other fine plants, it was first brought to Constantinople, and thence taken to Vienna in 1576. It was sent from the garden of the Emperor of Germany to this country before 1596, and it was called the crown imperial, from its flowers being disposed in the shape of a crown, and its coming from the imperial garden. Gerard praises this plant on account of "its stately beautifulness, and accords it the first place in the garden of delight." It flowers in May, and it is said to have an unpleasant smell, like that of a fox; but I cannot say that I ever perceived it, though I remember when a child being particularly fond of peeping into the flowers to see drops of water within them, and wondering why they did not fall like rain. The flowers of this plant are drooping, but as soon as the petals fall, the flower-stalks become erect, to bear the heavy pod in an upright position till the seeds ripen, lest they should fall too soon. There are twelve or thirteen varieties, the most ornamental of which are the gold striped and the silver striped, besides what are called monsters, with flat stems and crested flowers, which frequently occur with this species. The Crown Imperial is quite hardy in British gardens, but it grows best in rich loam. It is generally propagated by offsets, which it produces in great abundance; but it also ripens plenty of seed. These seeds are disposed quite differently to those of the common Fritillaries, and this is one of the reasons why botanists now place the Crown Imperial in another genus.

There are several other species, but the only ones worth mentioning are *F. cuprea*, a native of Mexico, with copper-coloured flowers; and *F. verticillata*, or *F. ruthenica*, *Swt. Brit. Flow. Gard.*, 2d ser. t. 343, with purple flowers.

GENUS III.

CYCLOBOTHRRA, *Swt.* THE CYCLOBOTHRRA.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Flowers nodding, ventricose, or campanulate. Sepals glabrous, acute. Petals larger than, and dissimilar to, the sepals; bearded, and having a smooth honey pit in the centre, so deep as to give each petal a gibbous appearance on the outside. Stigmata three. Capsule three-sided, coriaceous-membranaceous. Seeds fixed in one series, angular. Bulb tunicated. Leaves flat, acuminate.

DESCRIPTION, &c.—These very singular plants are distinguished from most others of the same natural order by having the calyx and the corolla of different colours, and quite distinct; and though in this respect they resemble the following genus (*Calochortus*), they differ from it in each petal having a kind of hump on the outside from the deep pit or cavity for honey within. The bulbs are tunicated like those of the hyacinth, and in this respect they differ alike from the solid bulb or corm of the tulip, and the loose scaly bulb of the lily. Only four species have been introduced; two of which are natives of California, and two of Mexico. The name of *Cyclobothrra*, which signifies a round well, alludes to the deep honey cavity in the petals. All the species flower at Midsummer; and they are all very difficult to cultivate.

1.—CYCLOBOTHRRA ALBA, *Beuth.* THE WHITE CYCLOBOTHRRA.

SYNONYME.—*Calochortus albus*, *Dougl.*

ENGRAVINGS.—Bot. Reg. t. 1661; and our *fig. 6* in Plate 53.

SPECIFIC CHARACTER.—Umbels 2—3-flowered; peduncles shorter

than the bracts; flowers oblong, inflated; petals ovate, very obtuse; margin naked; honey pit deeply impressed; sepals ovate-lanceolate, only half the length of the petals.

DESCRIPTION, &c.—The corolla of this species is white, and egg-shaped; and each petal shows conspicuously the hump caused by the deep honey pit within. It is a native of California, and was sent home by Douglas in 1833. It is very difficult to cultivate; but it appears to do best planted in a well-drained bed, formed as if for tulips, and filled with equal parts of sandy loam and vegetable mould. The bed should be about eighteen inches deep; and at the bottom should be a layer from three to six inches deep of stones and brickbats, to ensure drainage. The bulbs should be planted in March or April, and they should be taken up as soon as the leaves begin to turn yellow, which is generally in September or October.

2.—CYCLOBOTHRRA PULCHELLA, *Beuth.* THE PRETTY CYCLOBOTHRRA.

SYNONYME.—*Calochortus pulchellus*, *Dougl.*

ENGRAVINGS.—Bot. Reg. t. 1662; and our *fig. 7* in Plate 33.

SPECIFIC CHARACTER.—Umbel 2—3-flowered: peduncles much shorter than the bractea. Flowers globose; petals ovate obtuse, ser-

ulately fimbriated; honey pit forming a kind of callosity on the exterior of each petal. Sepals ovate-lanceolate, acuminate, shorter than the petals.

DESCRIPTION, &c.—This species bears considerable resemblance to *C. alba*, except in the colour of the flowers, and their being more globose. It is a native of California, whence it was sent home by Douglas with the preceding species in 1833. It requires the same treatment as *C. alba*, but it is yet more difficult to cultivate.

3.—CYCLOBOTHRA LUTEA, *Lindl.* THE YELLOW CYCLOBOTHRA.SYNONYME.—*C. barbata*, *Swt.*ENGRAVINGS.—*Swt. Brit. Flow. Gard.* t. 273; *Bot. Reg.* t. 1663.

SPECIFIC CHARACTER.—Stem bulb-bearing; peduncles longer than

the bracts; flowers solitary, campanulate; petals rhomboid-ovate, acuminate at the apex, of the same colour as the sepals, but somewhat longer.

DESCRIPTION, &c.—This species is so very distinct from the preceding ones as to seem to belong to a different genus. The sepals and the petals are of the same colour, and very nearly of the same form, and they curve outwardly instead of inwardly. Small bulbs are also produced in the axils of the leaves, which is not the case with the preceding kinds. This plant was called *C. barbata* by Sweet when it was first figured, as it was supposed to be the same as the plant called by Kunth, *Fritillaria barbata*, and which was discovered by Humboldt and Bonpland; but this species, Dr. Lindley tells us, “has a bearded horse-shoe mark on its sepals, no trace of which can be found in the plant now figured.” He has, therefore, called the species *C. lutea*, particularly as Sweet’s “name would be untenable, even if *F. barbata* were the same plant, because it is equally applicable to every species of the genus.” *C. lutea* is a native of Mexico, whence it was introduced in 1827. It is quite hardy in British gardens, where it requires the same treatment as the common Fritillary.

4.—CYCLOBOTHRA PURPUREA, *Pursh.* THE PURPLE CYCLOBOTHRA.SYNONYMES.—*Calochortus Bonplandianus*, *Schult. fil.*; *Fritillaria purpurea*, *Kunth.*ENGRAVINGS.—*Sweet Brit. Flow. Gard.* 2nd ser. t. 20; and our *fig.* 5, in Plate 53, under the name of *C. barbata*.

SPECIFIC CHARACTER.—Glaucous. Stem few-flowered. Leaves acuminate, upper ones dilated at the base. Sepals acute, glabrous. Petals blunt, ciliated.

DESCRIPTION, &c.—This species is nearly allied to *C. lutea*, as bulbs are in the like manner produced in the axils of the leaves, but the segments of the perianth do not curve outwardly; and the sepals and petals are not of the same colour, though they are both marked alike inside. It is a native of Mexico, and was introduced in 1827.

GENUS IV.

CALOCHORTUS, *Pursh.* THE CALOCHORTUS.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Flowers erect, flattened, spreading. Sepals glabrous, convolutedly acuminate. Petals larger than the sepals, round, flat; bearded in the centre, spotted and glabrous at the base. Style

none. Stigmas three. Capsule triangular, coriaceous. Seeds affixed in a simple series, flat, testa corky. Bulb tunicated; leaves convolute-acuminate, rigid.

DESCRIPTION, &c.—This genus differs from the preceding one, principally in being destitute of the honey pit, and in the seeds, which are flat and smooth, instead of being roundish and angular, as in *Cyclobothra*. The species are natives of California, and, like the *Cyclobothras*, they flower at Midsummer; they are, however, more tender than the species of that genus, and still more difficult to keep alive above two or three years.



1 *Calochortus macrocarpus* 2 *Calochortus venustus* 3 *Calochortus splendens* 4 *Calochortus luteus*
 5 *Cyclolobothra barbata* 6 *Cyclolobothra alba* 7 *Cyclolobothra pulchella*

1.—*CALOCHORTUS VENUSTUS*, *Benth.* THE BEAUTIFUL *CALOCHORTUS*.ENGRAVINGS.—Bot. Reg. t. 1669; and our *fig.* 2, in Plate 53.

SPECIFIC CHARACTER.—Stem solid, few-flowered. Leaves linear, acuminate, convolute, stem-clasping. Peduncles very long, rigid, one-

flowered. Sepals ovate-lanceolate, acuminate, much longer than the petals. Petals wedge-shaped, somewhat roundish, crisped at the margin.

DESCRIPTION, &c.—A very beautiful species, a native of California, introduced in 1833. “The stems grow about two feet high, and are sparingly clothed with rather stiff, narrow, green leaves, which quickly roll up, and become sharp pointed when dry weather sets in. The flowers are placed on stiff stalks, and remain unexpanded for several days; but they offer so broad a surface to the weather, that they are apt to be damaged and defaced by storms of rain” (*Bot. Reg.* t. 1569). The culture of this plant resembles that of *Cyclobothra alba*. *Calochortus* means handsome grass.

2.—*CALOCHORTUS SPLENDENS*, *Benth.* THE SPLENDID *CALOCHORTUS*.ENGRAVINGS.—Bot. Reg. t. 1676; and our *fig.* 3, in Plate 53.

SPECIFIC CHARACTER.—Stem 3—5-flowered. Sepals revolute. Petals somewhat unguiculate.

DESCRIPTION, &c.—The flowers of this species, (which was introduced from California in 1833,) are distinguished by their being without any spots, but their being somewhat claw-shaped, that is, narrowish, and more apart at the base. They also differ in the sepals, which are rolled back from the point; and in *C. venustus* there is, just above the base of the petals, an oblong tuft of rather loose hairs, which gradually scatter themselves over the petals for a short distance round the tuft; but in *C. splendens* the tuft is smaller, and composed of very short fine hairs, collected into a compact oblong mass, almost resembling a wart, and separated by a smooth interval from the scattered hairs of the petal, which are long and numerous. The culture is the same as of the preceding species.

3.—*CALOCHORTUS LUTEUS*, *Dougl.* THE YELLOW *CALOCHORTUS*.ENGRAVINGS.—Bot. Reg. t. 1597; and our *fig.* 4, in Plate 53.

SPECIFIC CHARACTER.—Scape generally three-flowered, leaves con-

volute, acuminate, shorter than the peduncles. Sepals round at the apex; petals wedge-shaped, rounded at the apex, bearded in the centre.

DESCRIPTION, &c.—A pretty species with yellow flowers, which has the merit of retaining its flowers without fading for a week or ten days. It is a native of California, whence it was introduced by Douglas in 1831. It is quite hardy in the open border, where it flowers in September and October; it succeeds best in a northern aspect, and is grown in sandy peat.

4.—*CALOCHORTUS MACROCARPUS*, *Dougl.* THE LONG-FRUITED *CALOCHORTUS*.ENGRAVINGS.—Bot. Reg. t. 1152; and our *fig.* 1, in Plate 53.

SPECIFIC CHARACTER.—Scape 2-flowered. Sepals ovate-lanceolate,

very long, flat. Petals obovate cuneate, bearded at the base. Capsule erect, linear-oblong.

DESCRIPTION, &c.—A very showy species, found by Douglas in the “dry barren grounds round the great falls of the Columbia,” two hundred miles from the sea. It was introduced in 1826, and requires the same treatment as the preceding species.

There are two other species, *C. nitidus* and *C. elegans*, both introduced in 1826; but both of which are lost. They also are natives of California.

GENUS V.

RHINOPETALUM, *Fisch.* THE RHINOPETALUM.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth 6-parted, coloured, deciduous, recurvedly patent; segments with a nectariferous pit at the base; upper one drawn out into a helmet-like spur projecting forwards. Stamens 6, nearly equal; filaments conniving, bearded. Anthers inserted at the base, erect. Ovary trigonal, 3-celled; ovules many, obovate, ventricose, smooth, disposed in two series.

DESCRIPTION, &c.—There is only one species of this curious genus, which is distinguished by the projecting spur on the upper petal, which gives rise to the name of *Rhinopetalum*, *rhino* signifying a snout; so that the meaning of the name is Snout-petal. Style sub-filiform. Stigma undivided, truncate.

1.—RHINOPETALUM KARELINI, *Fisch.* MR. KARELIN'S RHINOPETALUM.

ENGRAVINGS.—Swt. Brit. Flow. Gard., 2nd ser. t. 283; and our *fig.* 8, in Plate 53.

SPECIFIC CHARACTER.—Bulb composed of two or three broad fleshy scales. Leaves lanceolate, sub-convolute. Flowers terminal, solitary.

DESCRIPTION, &c.—A plant of no beauty, and only deserving culture for its singularity. The flowers are solitary, and somewhat drooping. It was discovered by M. Karelin in the Ural, and sent by him to Dr. Fischer at St. Petersburg, by whom it was named. It was introduced in 1835, and would probably prove hardy in this climate, did it not flower in January, which renders it necessary to afford it a little protection during winter. It should be grown in equal parts of sandy peat and loam.

GENUS VI.

LILIUM, *Lin.* THE LILY.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth campanulate, 6-parted; segments straight or revolute, connivent at the base, and furrowed longitudinally, nectariferous, naked or ciliated at the margin. Stamens shorter than the style. Capsule oblong, six-furrowed, three-sided. Seeds flat. Bulb scaly.

DESCRIPTION, &c.—The lilies are so well known, and so universally admired, that it seems needless to give any description of the genus. The flowers are large and showy; and the bulbs of all the species are scaly. The name of lily is said by some to be taken from the Celtic word for white; and by others, from a Greek word, signifying a tall stately flower. Most of the species are hardy; and they are all great favourites in gardens.

SECTION I.—PERIANTH CAMPANULATE, SEGMENTS SESSILE.

1.—LILIUM CANDIDUM, *Lin.* THE WHITE LILY.

ENGRAVINGS.—Bot. Mag. t. 278; and our *fig.* 2, in Plate 34.

SPECIFIC CHARACTER.—Leaves distant. Segments of the perianth glabrous within.

DESCRIPTION, &c.—This very splendid plant is one of the oldest flowers of our gardens; and it has long been so much admired for its beauty and stateliness, the snowy whiteness of its flowers, and their fragrance, as



1 *Lilium bulbiferum* 2 *Lilium caeruleum* 3 *Lilium canadense* 4 *Lilium pinnatifidum*
 5 *Lilium longifolium* 6 *Lilium philadelphicum* 7 *Lilium concolor*

to be quite without a rival. It is a native of Palestine, whence it was introduced long before the time of Gerard (1596), as he speaks of it as an old and well-known flower. It is quite hardy, and will grow in any soil and situation. There are several varieties, the most remarkable of which has the leaves striped.

2.—*LILIUM LANCEOLATUM*, Sieb. THE LANCEOLATE-LEAVED LILY.

SYNONYME.—*L. longiflorum*, Hort.

ENGRAVING.—Paxt. Mag. of Bot. 5, t. 67; and our *fig. 2*, in Plate 55.

SPECIFIC CHARACTER.—Stem angular, simple, 1-flowered. Leaves

alternate, lanceolate, glabrous, and somewhat stem-clasping. Perianth nodding; segments recurved.

DESCRIPTION, &c.—A very beautiful species from Japan, introduced in 1824, which is sometimes planted in the open ground; but which, when this is the case, requires a slight protection during winter, so as to preserve it dry, and give it a season of rest.

3.—*LILIUM JAPONICUM*, Thunb. THE JAPAN LILY.

ENGRAVINGS.—Bot. Mag. t. 1591; and our *fig. 1*, in Plate 55.

SPECIFIC CHARACTER.—Scape cylindrical, glabrous, 1-flowered.

Leaves ligular-lanceolate, attenuated at the point, 3—5 nerved,

glabrous. Perianth nodding; segments fleshy, recurvedly patent at the tip.

DESCRIPTION, &c.—The flowers of this species are large and bell-shaped, slightly curving upwards at the tip; and the stem is about two feet high. It is a native of China, whence it was introduced in 1804; and it requires the same treatment as the preceding species.

4.—*LILIUM BULBIFERUM*, Lin. THE BULB-BEARING, OR COMMON ORANGE LILY.

SYNONYME.—*L. aureum*, the Gold-red Lily, Park.

ENGRAVINGS.—Bot. Mag. t. 36; and our *fig. 1*, in Plate 54; *var.*

L. b. umbellatum, Bot. Mag. t. 1018.

SPECIFIC CHARACTER.—Scape cylindrical, three-flowered. Flowers

in an umbel. Leaves lanceolate, sparse. Perianth erect; segments somewhat unguiculate, recurved at the tip, scabrous within. Bulbs frequently produced in the axils of the leaves.

DESCRIPTION, &c.—The common orange lily is so well known as to need no description. It will grow in any soil or situation, though it prefers a rich soil to a poor one; and it may remain a great many years in the ground without taking up. When it is removed, it should be between the time of the stalks decaying in September, and November; and the bulbs should not be kept long out of the ground. It will bear the smoke of great cities without receiving any injury. It sometimes bears deformed flowers, in which case it should be taken up and replanted in a better soil.

5.—*LILIUM MONADELPHIUM*, Bieb. THE MONADELPHUS, OR CAUCASIAN LILY.

SYNONYME.—*L. orientale*, Tourn.

ENGRAVING.—Bot. Mag. t. 1405; and our *fig. 1*, in Plate 57.

SPECIFIC CHARACTER.—Scape many-flowered. Flowers disposed in

a kind of raceme. Leaves ovate-lanceolate, numerous, almost in whorls. Perianth nodding, somewhat revolute; segments curled back at about half their length, connivent at the base.

DESCRIPTION, &c.—This species forms the connecting link between the lilies with the campanulate flowers, and those with the flowers revolute; in the same way as *L. bulbiferum* formed the link between those with the segments of the perianth close together, as in the white lily; and those with the segments unguiculate, as in *L. Catesbeii*. The habit of growth of this species is that of the common Martagon or Turk's-cap. It is a native of Caucasus, and it was introduced in 1800. It is quite hardy, and requires the same culture as *L. bulbiferum*.

OTHER SPECIES OF LILIUM BELONGING TO SECTION I.

Most of the following species are in British gardens ; but they differ so little from others in the same section, that I have not thought it necessary to describe them at length.

L. PEREGRINUM, *Swt. Brit. Flow. Gard.*, 2nd Ser. t. 367.

With white flowers, a native of the Levant ; introduced in 1596. Quite hardy.

L. NEPALENSE, *Wall.*

A native of Nepaul, with white flowers ; introduced in 1825.

L. LANCIFOLIUM, *R. et S.*

White flowers, from Japan ; introduced in 1824.

L. LONGIFLORUM, *R. et S.* ; L. SUAVEOLENS, *Bot. Reg.* t. 560.

White flowers, very sweet-scented, a native of Japan ; introduced in 1819. Nearly allied to *L. japonicum*.

L. BUSCHIANUM, *Lodd. Bot. Cab.* t. 1628 ; and our *fig. 6*, in Plate 54 ; L. SIBIRICUM, *Hort.*

A native of Siberia, with orange flowers ; introduced in 1829. Quite hardy.

L. CROCEUM, *R. et S.*

A native of the south of Europe, with saffron-coloured flowers.

L. LATIFOLIUM, *Link.*

A species nearly allied to *L. bulbiferum*, with orange flowers and broad leaves.

L. PUBESCENS, *R. et S.*

A species with orange flowers and downy leaves.

L. SPECTABILE, *Fisch., Swt. Brit. Flow. Gard.* t. 75 ; L. PENNSYLVANICUM, *Catesby, Bot. Mag.* t. 872 ;

L. DAURICUM, *Ker.*

A very handsome species, nearly allied to the common orange lily, but much more showy ; the principal differences between it and that species are—the segments of the perianth are more slender, the colours brighter, the stem is only one-flowered, and both leaves and flowers are somewhat downy. It is generally called the American orange lily, but it is also found wild in Siberia. It was introduced before 1745, as it flowered in that year in Collinson's garden at Peckham. It is quite hardy, and requires the same culture as *L. bulbiferum*.

L. THUNBERGIANUM, *R. et S., Bot. Reg.* for 1839, t. 38, and our *fig. 4*, in Plate 55 ; L. AURANTIACUM, *Sieb. ;*

L. BULBIFERUM, *Thunb.* ; L. PHILADELPHICUM, *Thunb.*

A very handsome species, a native of Japan ; introduced in 1834, and requiring the same treatment as *L. japonicum*.



Lilium candidum, *Lilium longiflorum*, *Lilium tigrinum*, *Lilium aurantiacum*

SECTION II.—COROLLAS CAMPANULATE; PETALS UNGUICULATE.

6.—*LILIUM PHILADELPHIUM*, Willd. THE PHILADELPHIAN LILY.

ENGRAVINGS.—Bot. Mag. t. 519; and our *fig. 7*, in Plate 54.

SPECIFIC CHARACTER.—Scape cylindrical, 2-flowered. Perianth erect, segments distinct at the base. Leaves lanceolate-verticillate.

DESCRIPTION, &c.—A very handsome species, bearing considerable resemblance to the *N. Pennsylvanicum* of Catesby. The bulbs of this species are small and white, and they produce each a single stem bearing two flowers. The leaves are lanceolate, and they are produced in whorls. This species was first discovered by Mr. John Bartram, of Philadelphia, and it was sent by him to this country in 1757; where it was first cultivated by Miller, at Chelsea. It requires a little protection in severe weather.

7.—*LILIUM CATESBÆI*, Lin. MR. CATESBY'S LILY.

SYNONYME.—*L. Spectabile*, Salis.

ENGRAVINGS.—Bot. Mag. t. 259; and our *fig. 5*, in Plate 54.

SPECIFIC CHARACTER.—Scape cylindrical, slender, 1-flowered. Perianth erect, spreading. Segments distant at the base, undulated on the margin, attenuated, somewhat revolute.

DESCRIPTION, &c.—This very curious plant is not more than a foot high, and the bulb is very small. The flower is, however, large and handsome. It is a native of South Carolina, whence it was sent to England in 1787. It is rather tender, and left in the open ground during winter it should be protected by a covering of dead leaves or tan.

SECTION III.—COROLLAS REVOLUTE.

8.—*LILIUM CANADENSE*, Lin. THE CANADIAN LILY.

ENGRAVINGS.—Bot. Mag. t. 800; and our *fig. 3*, in Plate 54.

VARIETY.—*L. C. 2 rubrum*, Bot. Mag. t. 858; and our *fig. 4*, in Plate 54.

SPECIFIC CHARACTER.—Stem cylindrical, slender, green, 1—12-flowered. Leaves lanceolate, 3-nerved, slightly hairy below, remotely verticillate. Perianth nodding, segments connivent at the base, distinct, spreading, and slightly recurved at the tip.

DESCRIPTION, &c.—This species, which is very handsome, was brought to this country from France before 1629; having been sent to that country from Canada. It is found in great abundance throughout all the provinces of North America which lie north of the Alleghany mountains. It flowers in England in July and August, and in this country it should be grown in bog earth, in a somewhat moist and shady situation. It produces abundance of bulbs, “which are of a creeping nature, and in very severe winters these are sometimes destroyed, unless protected by a covering of ashes or old tan.” The variety is larger in all its parts, and the flowers are of a deep orange red.

9.—*LILIUM CONCOLOR*, Salis. THE ONE-COLOURED LILY.

SYNONYMS.—*D. bulbiferum*, Lin.; *L. Philadelphicum*, Thun.; Chinese orange Lily.

ENGRAVINGS.—Bot. Mag. t. 1165; and our *fig. 8*, in Plate 54.

SPECIFIC CHARACTER.—Leaves oblong-lanceolate, acuminate, villosely ciliated. Raceme terminate, few-flowered; pedicels axillary, very long. Perianth erect, revolutely campanulate, segments oblong-lanceolate, patent, reflexed.

DESCRIPTION, &c.—A very handsome species, from the brilliant colour of the flowers, which, though small,

are elegantly formed. It is a native of China, from which country it was introduced in 1806. In England it is a greenhouse plant, which only requires protection during winter, and may be plunged in the open ground in May to flower in June and July.

10.—LILIUM SPECIOSUM, *Lin.* THE SHOWY LILY.

SYNONYMES.—*L. superbum*, *Thunb.*; *L. lancifolium*, *Hort.*

ENGRAVINGS.—Bot. Reg. t. 2000; Paxt. Mag. of Bot. 5, p. 1; and our *fig.* 3, in Plate 55.

VARIETIES.—*L. s.* 2 *Kämpferi*, *G. D.* The flowers are rosy purple.

L. s. 3 *Tametomo*, *Sieb.*; *L. eximium*, *Hort.* Flowers white.

L. s. 4, *punctatum*, *G. D.* Flowers spotted.

SPECIFIC CHARACTER.—Scape cylindrical, 1—5-flowered. Leaves ovate-lanceolate, 5-nerved. Perianth somewhat nodding, segments reflex.

DESCRIPTION, &c.—This is a most magnificent species, and the varieties, though very distinct, are almost equally handsome. The species is remarkable, as Dr. Lindley observes, not only “on account of the clear, deep rose-colour of its flowers, which are all rugged with rubies and garnets, and sparkling with crystal points, but it has the sweet fragrance of a *Petunia*.” It is a native of Japan, whence it was introduced in 1833. It is generally considered only half-hardy, but it does best planted in the open ground, and the bulbs protected, so as to keep them dry, by hand-glasses, &c., during winter. I saw *L. eximium* beautifully in flower in the open ground in Lawson’s nursery, Edinburgh, September 3, 1841. Neither species nor the varieties ever flower well unless they have abundance of room for their roots.

11.—LILIUM SUPERBUM, *Lin.* THE SUPERB LILY.

SYNONYMES.—*L. Carolinianum*, *Michx.*; *Martagon Canadense*, *Trew.*

ENGRAVINGS.—Bot. Mag. t. 936; Red. Lil. t. 103; and our *fig.* 2, in Plate 56.

SPECIFIC CHARACTER.—Bulb very white. Scape 3—15-flowered. Leaves linear-lanceolate, 3-nerved. Perianth nodding, segments revolute-reflexed.

DESCRIPTION, &c.—The flowers of this showy plant when in a wild state seldom exceed three, which are produced “in a kind of umbel; but when cultivated carefully and kept in a moist, shady border of bog earth, the stem will rise to the height of five feet, and it will produce a thyrse of from twelve to fifteen flowers.” It is without fragrance; its bulb is remarkably white. It is a native of North America, whence it was introduced by Mr. Collinson in 1738; and it is quite hardy in British gardens.

12.—LILIUM MARTAGON, *Lin.* THE MARTAGON, OR TURK’S-CAP LILY.

SYNONYMES.—*L. sylvestre*, *Chis.*; *L. montanum*, *Bauh.*; *Martagon Imperiale*, *Park*; *Turnagain Gentleman*.

ENGRAVINGS.—Bot. Mag. t. 893; t. 1634; Eng. Bot. t. 2799; and our *fig.* 3, in Plate 56.

SPECIFIC CHARACTER.—Stem cylindrical, robust, many-flowered. Leaves obovate-lanceolate, verticillate. Perianth somewhat nodding; segments revolutely reflexed.

DESCRIPTION, &c.—A great many varieties of this species are common in British gardens, twelve of which are named in books, but as they are not very distinct I have not thought it worth while to describe them. They are all tall plants, varying from three to five feet in height, with long, erect racemes of flowers, varying in colour from a reddish purple to white. The leaves of all the kinds are harsh and coarse, the flowers glossy, and of a fleshy texture. They are natives of England and Germany, and the species is one of the oldest garden flowers of which we have any record.



Lilium tigrinum (Lilium tigrinum)
Lilium reginae (Lilium reginae)
Lilium longifolium (Lilium longifolium)
Lilium chryseum (Lilium chryseum)

13.—*LILIUM PYRENIACUM*, Gowan. THE PYRENEAN LILY.

SYNONYMES.—*L. Pomponium* β , *Ker*; *L. flavum*, *Tourn.*; *L. montanum* β , *Clus.*

ENGRAVINGS.—*Bot. Mag.* t. 798; and our *fig.* 6, in Plate 56, under the name of *L. Pomponium*.

SPECIFIC CHARACTER.—Leaves lanceolate-linear, single. Perianth nodding, segments revolutely reflexed, papillose within.

DESCRIPTION, &c.—A handsome species, which is easily distinguished from the common Martagon lily by its leaves, which are not in whorls, and by the small watery blisters inside its flowers. It is a native of the Pyrenees, whence it was introduced before 1596, and it is quite hardy in British gardens.

14.—*LILIUM CHALCEDONIUM*, *Lin.* THE CHALCEDONIAN LILY, OR SCARLET MARTAGON.

SYNONYMES.—*L. Byzantium*, *Bauh.*; Red Martagon of Constantinople, *Park*; Scarlet Turnagain Gentleman.

ENGRAVINGS.—*Bot. Mag.* t. 30; and our *fig.* 8, in Plate 56.

SPECIFIC CHARACTER.—Scape 1-6-flowered. Leaves lanceolate, enfolding the stem. Perianth nodding, segments revolute-reflexed.

DESCRIPTION, &c.—The scarlet Martagon is a common flower in every garden, from its great hardiness and the brilliant colour of its flowers, which are produced in great abundance even when the plant is grown in a smoky atmosphere. It was first received in England before 1594 from Constantinople, and hence it has been supposed to be a native of Persia, or Turkey, but it is in fact from Hungary. The only care it requires in its cultivation is, when the plants become deformed, to remove them to a better soil; taking care not to disturb the bulbs till the stems have begun to wither.

OTHER SPECIES OF *LILIUM*.

L. ANDINUM, *Nut.*; *L. UMBELLATUM*, *Pursh.*; *L. PHILADELPHICUM* β *ANDINUM*, *Bot. Reg.* t. 504; and our *fig.* 7, in Plate 56, under the name of *L. autumnale*.

A showy hardy plant, a native of the Andes; introduced in 1811; and flowering in August and September.

L. CAROLINIANUM, *Ker*; *Bot. Reg.* t. 580; and our *fig.* 4, in Plate 56.

A native of Carolina, introduced in 1820; quite hardy in British gardens.

L. PUMILUM, *Bot. Reg.* t. 133; and our *fig.* 3, in Plate 57; *L. LINIFOLIUM*, *Hort.*

A dwarf species, a native of Siberia, introduced in 1816; quite hardy.

L. ATROSANGUINEUM, *Sieb.*

A Japan species, nearly allied to *L. speciosum*, and requiring the same treatment; introduced in 1835.

L. TIGRINUM, *Bot. Mag.* t. 1237; and our *fig.* 1, in Plate 56.

A native of China, introduced in 1804; flowering in September and October, but quite hardy in British gardens.

L. CORRUSCANS, *Hort.*

Probably a variety of *L. speciosum*.

L. TENUIFOLIUM, *Bieb.*; *Swt. Brit. Flow. Gard.*, 2nd Ser. t. 275; and our *fig.* 5, in Plate 56.

A native of Caucasus, introduced in 1820; quite hardy.

L. POMPONIUM, *Lin.*; *L. P. RUBRUM*, *Bot. Mag.* t. 971; and our *fig. 2*, in Plate 57.

A native of Siberia; introduced before 1629, and a common flower in British gardens, for its hardiness and the easiness of its culture.

L. PULCHELLUM, *Fisch.*

A native of Siberia, introduced in 1829.

To these may be added—

LILIUM PUDICUM, *Pursh.*; *AMBLIRION PUDICUM*, *Raf.*

A dwarf plant with yellow flowers, found on the banks of the Mississippi, and introduced in 1825.

L. CAMSCHATCENSE, *Lin. Trans.* 10, t. 11; *A. CAMSCHATCENSE*, *G. Don.*

A species with purple flowers, introduced in 1759.

OBSERVATIONS ON THE LILIES.—In the preceding pages I have followed the latest botanical arrangement, but a more popular one would have been to class the lilies as the hardy and the tender; and this mode of arrangement is the one most convenient to follow with regard to culture.

The hardy lilies, such as the white, the orange, and the Martagon or Turk's-cap, all require very little care from the gardener. The principal thing indeed to be attended to, is to forbear disturbing them too often. All these kinds, when once planted, should be left as long as possible untouched; unless they begin to bear deformed flowers, which they often do, and which is a proof that they are suffering from too much moisture, or some other cause, and that they require taking up, and replanting in a different soil. When from this cause or any other it is found necessary to remove any kind of hardy lilies, the bed or border in which they are to be replanted should be prepared beforehand by draining, and making the soil a deep, rich loam. In this the bulbs should be planted from three to five inches deep, according to their size, as soon as possible after taking them up, as they will be spoiled if they are allowed to get thoroughly dry. The bulbs should be taken up only in autumn, after they have done flowering, and are in a perfectly dormant state.

The tender lilies, such as *L. japonicum*, *L. longiflorum*, and *L. speciosum*, seem to have puzzled gardeners very much, as quite different methods of treatment are recommended for them. I have been told by some gardeners that they will never flower well in pots; and by others, that they will not flower if planted in the free ground. Some persons recommend shade and moisture, and others an open situation, exposed to the full influence of the sun and air. In this diversity of opinion, I have thought it safest to copy the following passage from Paxton's Magazine of Botany for August; as it is generally allowed that there cannot be a better authority than that of Mr. Paxton for all matters connected with culture:—

“Of *Lilium speciosum* and its allies, we have recently declared our opinion, from several instances of which we are cognizant, that they grow too grossly and luxuriantly if planted in the border of a partially shaded house. As we find the plan likely to prevail, and since it seems to be a common impression that they succeed best in a Camellia-house, or one which has a western aspect, we feel called upon to re-affirm what we have before stated, and show how these plants are spoiled by shade.

“Planted in a border which is inevitably twelve or fourteen feet from the glass, and more or less screened from the sun's rays by the surrounding Camellias; from the moment they appear above the ground to the period of their flowering, there is an unnatural effort maintained to reach the top of the house. Hence, by the month of



Lilium martagon

Lilium tataricum (Lilium tataricum) *Lilium martagon*

July, the stems are considerably higher than the tallest person, and, wanting proportionate strength and foliage, this is a very displeasing characteristic in Lilies. The flowers, then, when they are developed, lack colour in the more richly mottled varieties, and are too remote from each other and from the spectator in all.

“Turning to the converse case, if the plants are confined to pots, and retained in a house with a southerly aspect, they can be placed close to the glass throughout their entire growth, and perfection in height, in the arrangement, number, size, and colouring of the flowers, will be readily attained. The height, under such congenial treatment, will be from two feet to two feet six inches; the flowers will be from ten to twelve in a group on a single stem; the hues most gorgeous; and the whole a model of bealth and beauty. Should it be thought that our opinions on the subject are merely supposititious, we must distinctly say, that having often observed plants in both the states and circumstances noted, our description of them is quite accurate.

“When proximity to the glass occasions excessive evaporation from the soil in which the species are grown, it is useful to spread over the top of the earth a layer of moss, an inch or more in thickness. The practice is adopted, though not for the purpose suggested, at Mr. Low’s, Clapton, and it is found that the roots rise through the soil into the moss, and are there both easily supplied with water, and nearer the atmospheric influences. On the moss becoming filled with roots, a little soil or other moss can be placed above it, thus encouraging the most valuable rootlets to range near the surface; the importance of which is appreciated by every scientific culturist.

“Our objections to cultivating the Japan Lilies in a border, do not, of course, extend to the open ground. The main difference between the two situations is that while in the bed of a Camellia-house only vertical light should be received, which would unavoidably ‘draw’ the plants towards the point at which it enters; in an exposed border, the plants would be encompassed with light, the comparatively equal attraction of which on all sides would counteract the tendency to grow to a great perpendicular height, and impel them to the expansion of lateral branches when in a much dwarfer state. The distinction here made is of immense moment in the culture of tender exotics, and involves consequences which are daily ensuring fresh attention.”

GENUS VII.

ERYTHRONIUM, *Lin.* DOG’S-TOOTH VIOLET.

Lin. Syst. HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth superior, 6-parted, campanulate; segments reflexed to half their length; three of them having two callosities inside at the base. Capsule subglobose. Seeds oblong.

DESCRIPTION, &c.—All the species of dog’s-tooth violet are remarkable for their deeply-reflexed segments, which are so completely turned back as to present a very singular appearance. They are natives of Europe and America. The name of Erythronium is derived from a Greek word signifying red.

1.—ERYTHRONIUM DENS CANIS, *Lin.* THE COMMON DOG’S-TOOTH VIOLET.

VARIETIES.—E. D. 2 longiflorum; E. D. 3 albiflora, Swt. Brit. Flow. Gard. t. 71 f. b.

ENGRAVINGS.—Swt. Brit. Flow. Gard. t. 71; Bot. Mag. t. 5; Swt.

Brit. Flow. Gard. 2d Ser. t. 76; and our *fig.* 3 in Plate 58.

SPECIFIC CHARACTER.—Leaves obovate. Segments of the perianth lanceolate, and conniving at the base.

DESCRIPTION, &c.—The dog’s-tooth violet is a plant that varies exceedingly in colour, from purple to a pale pink, and to white. The species is a native of the south of Europe, whence it was introduced before 1596. It

is quite hardy in British gardens, but it should be grown in a soft loamy soil, and in a shady situation. When once planted, the bulbs should never be removed, unless absolutely necessary; and when they are taken up, they should be replanted as soon as possible, as if suffered to shrink they will rot and soon decay. The plants should be always arranged in patches, and not planted singly; in order that the flowers may produce a good effect, which they never do when planted singly.

2.—ERYTHRONIUM AMERICANUM, Ker. THE AMERICAN DOG'S-TOOTH VIOLET.

SYNONYMS.—*E. lanceolatum*, Pursh; *E. Dens Canis*, Michx.

ENGRAVING.—Bot. Mag. t. 1113.

SPECIFIC CHARACTER.—Leaves lanceolate. Segments of the perianth lanceolate, obtusely dilated at the base. Germen subglobose.

DESCRIPTION, &c.—This species has yellow flowers. It is a native of North America, where it is found from Canada to Virginia, in woods, near the roots of old trees, and on the banks of rivulets; it is also found on the banks of the Missouri. There is a variety with brown spots at the base of the flower. Both kinds require the same culture as the preceding species.

3.—ERYTHRONIUM GRANDIFLORUM, Pursh. THE LARGE-FLOWERED DOG'S-TOOTH VIOLET.

ENGRAVINGS.—Bot. Reg. t. 1786; and our fig. 4, in Plate 58.

SPECIFIC CHARACTER.—Leaves linear-lanceolate. Segments of the perianth lanceolate, subunguiculate, acute; ovary oblong.

DESCRIPTION, &c.—The flowers of this species are nearly twice the size of those of the other kinds, and of a pale yellow. The species is a native of North America, whence it was introduced in 1825, and it requires the same treatment as the preceding kinds.

OTHER SPECIES OF ERYTHRONIUM.

E. ALBIDUM, Nutt.

The flowers are white. The species is a native of North America, and it was introduced in 1825. It is quite hardy.

E. GIGANTEUM, Bot. Reg.

This species is of a very large size.

CHAPTER V.

MELANTHACEÆ.

ESSENTIAL CHARACTER.—Perianth inferior, 3-parted, or tubular from the cohesion of the claws of the segments. Stamens 6, anthers generally turned outwards. Ovary 3-celled, many-seeded. Style trifid, or 3-parted; stigmas undivided. Capsule generally in three parts. Seeds with a membranous testa; albumen dense, fleshy. *R. Br.*

DESCRIPTION, &c.—The Colchicum is the type of this order, and bulbous-rooted plants included in it generally have their flowers arising from under the surface of the ground. They have also, in most cases, showy flowers. Many new genera have lately been made from the plants included in this order; but in most cases I have retained the old names, as being those by which the plants are most generally known.

GENUS I.
BULBOCODIUM, *Lin.* THE BULBOCODIUM.

Lin. Syst. HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth funnel-shaped; 6-parted. Segments narrow, stamen-bearing. Capsule superior.

DESCRIPTION, &c.—The plants belonging to this genus bear a strong resemblance to the different kinds of *Crocus* and *Colchicum*.

1.—BULBOCODIUM VERNUM, *Lin.* THE SPRING BULBOCODIUM.

SYNONYMES.—*Colchicum verna*, *Bauh.*; Meadow saffron of the spring, *Park.*

ENGRAVINGS.—*Bot. Mag.* t. 153; and our *fig.* 8 in Plate 58. SPECIFIC CHARACTER.—Leaves lanceolate.

DESCRIPTION, &c.—This pretty little plant is a native of Spain, introduced before 1629. It very much resembles a *Colchicum*, except in its time of flowering, which is in spring, instead of autumn. It is quite hardy.

2.—BULBOCODIUM VERSICOLOR, *Spreng.* THE CHANGEABLE BULBOCODIUM.

SYNONYME.—*Colchicum versicolor*, *Ker.*

ENGRAVING.—*Bot. Reg.* t. 571. SPECIFIC CHARACTER.—Leaves four, glabrous, spiral. Flowers small. Style one.

DESCRIPTION, &c.—A dwarf plant, with very small purplish flowers; a native of the Crimea; introduced in 1820.

GENUS II.
COLCHICUM, *Lin.* THE COLCHICUM, OR MEADOW SAFFRON.

Lin. Syst. HEXANDRIA TRIGYNIA.

GENERIC CHARACTER.—Flowers enfolded in a spathe. Perianth 6-parted, with a tube proceeding directly from the root. Anthers incumbent. Capsules three, connected, inflated.

DESCRIPTION, &c.—All the kinds of *Colchicum* bear so strong a resemblance to the different kinds of *Crocus*, as to be undistinguishable by a common observer. They are, however, so different in the eyes of botanists as to be placed widely apart, not only according to the system of Linnæus, but even in the natural system. The principal difference, however, consists in the stamens, of which there are three in the *Crocus*, and six in the *Colchicum*; many more flowers are also produced from each bulb of the latter; in most other respects the plants are nearly alike. All the kinds of *Colchicum* yet known are European or Asiatic; and none have yet been found in America, Africa, or Australia. They all possess strong medicinal properties, and are poisonous if used to excess. The name of *Colchicum* is derived from Colchis, where the plant grows in abundance.

1.—COLCHICUM AUTUMNALE, *Lin.* THE COMMON OR AUTUMNAL CROCUS.

ENGRAVINGS.—*Eng. Bot.* t. 133.

SPECIFIC CHARACTER.—Leaves flat, lanceolate, erect.

DESCRIPTION, &c.—This species is the one generally used in medicine for the gout and rheumatism; and it is said to be the principal ingredient in the celebrated *eau médicinale* of the French. It has, however, been found

poisonous to some constitutions ; and as several persons have died from taking it, the use of the medicine has been prohibited in France, though it is still allowed in England. In gardens it is a pretty border flower, and though it has rather a naked appearance from the want of leaves, it is valuable from its flowers appearing at a time when there are few others in our gardens. This *Colchicum* is also valuable on account of the great number of flowers produced ; six or eight springing from each bulb. The plants are quite hardy in British gardens, and are, indeed, frequently found wild in this country. There is a very pretty variety with white flowers, and another with the flowers double.

2.—*COLCHICUM BYZANTINUM*, *Park.* THE BYZANTINE, OR BROAD-LEAVED COLCHICUM.

ENGRAVING.—*Bot. Mag.* t. 1122.

SPECIFIC CHARACTER.—Leaves five, ovate-oblong, very broad. Flowers very numerous.

DESCRIPTION, &c.—This plant is remarkable for the great size of its bulb, which is as large as a man's fist ; for the extraordinary breadth of its leaves, which are sometimes six inches across ; and for the abundance of its flowers, from sixteen to twenty generally springing from each bulb. The flowers appear in autumn, and when they fade they are succeeded by the leaves, which are in perfection in May. The species was introduced from Constantinople before 1629, but though very hardy and very showy, it is seldom seen in gardens.

3.—*COLCHICUM VARIEGATUM*, *Ker.* THE VARIEGATED COLCHICUM.

ENGRAVINGS.—*Bot. Mag.* t. 1028 ; and our *fig.* 1 in Plate 58.

SPECIFIC CHARACTER.—Leaves wavy, spreading.

DESCRIPTION, &c.—The flowers of this species are curiously variegated. It is a native of Greece, and was introduced before 1629. It is quite hardy, but it is seldom seen in British gardens.

OTHER SPECIES OF COLCHICUM.

C. CROCIFLORUM, *Bot. Mag.* t. 2673, and our *fig.* 2 in Plate 58.

The flowers of this species, which is occasionally found wild in Britain, resemble those of a crocus.

C. CHIONENSE, *Haw.*

The flowers are purple, and the plant is a native of Chio.

C. ALPINUM, *Dec.*

A species with purple flowers, found on the Apennines, and introduced in 1820.

C. ARENARIUM, *Spreng.*

A native of Hungary, with lilac flowers ; introduced in 1816.

C. UMBROSUM, *Fisch.*

A species with lilac flowers ; a native of the woods of Siberia ; introduced in 1820.

C. TESSELLATA, *Mil.*

A species nearly allied to *C. variegata* ; introduced from the south of Europe in 1600.

C. MONTANUM, *Spreng.*

A species with lilac flowers ; introduced from the south of Europe in 1818.



Lilium candidum L.
Lilium reginae L.
Lilium longifolium L.
Lilium tigrinum L.
Lilium brownii L.

GENUS III.

MERENDERA, *Bieb.* THE MERENDERA.*Lin. Syst.* HEXANDRIA TRIGYNIA.

GENERIC CHARACTER.—Perianth funnel-shaped, 6-parted; segments on very long claws; stamens inserted in them above the claws.

DESCRIPTION, &c.—There is only one species. The name of *Merendera* was originally given to the *Colchicum*, and it has been applied to the plant on account of its resemblance to the *colchicums*.

1.—MERENDERA CAUCASICA, *Bieb.* THE CAUCASIAN MERENDERA.

SYNONYMES.—*Bulbocodium trigynium*, *Adans.*; *Colchicum caucasicum*, *Spreng.*

ENGRAVINGS.—*Bot. Mag.* t. 3690; and our *fig.* 6, in Plate 58.

SPECIFIC CHARACTER.—Anthers versatile. Leaves lanceolate-linear, spreading. Flowers rising with the leaves.

DESCRIPTION, &c.—A very pretty little plant, distinguished from the *colchicums* by the leaves and flowers rising at the same time. It is a native of *Caucasus*, introduced in 1823.

GENUS IV.

WURMBEA, *Willd.* THE WURMBEA.*Lin. Syst.* HEXANDRIA MONOGYNIA.

GENERIC CHARACTER.—Perianth 6-parted, with an hexangular tube. Filaments inserted in the throat. Styles conniving. Capsule oblong, 3-cornered. Seeds round.

1.—WURMBEA PURPUREA, *Ait.* THE PURPLE WURMBEA.

SYNONYMES.—*W. capensis*, *And.*; *W. campanulata* β , *Willd.*; *Melanthium spicatum*, *Houtt.*

ENGRAVINGS.—*Bot. Mag.* t. 694; *Bot. Rep.* t. 221.

SPECIFIC CHARACTER.—Spike oblong, many-flowered. Leaves convolutedly channelled, attenuated. Perianth star-like, segments linear-subulate, spreading.

DESCRIPTION, &c.—A very singular little plant, with a spike of very dark purple flowers. It is a native of the hills near *Groene-Kloof*, at the *Cape of Good Hope*. It was introduced in 1788, and requires the same treatment as an *Ixia*.

OTHER SPECIES OF WURMBEA.

W. CAMPANULATA, *Willd.*; *MELANTHICUM MONOPETALA*, *Bot. Mag.* t. 1291.

Has white flowers. It was found with the preceding species, and introduced at the same time.

W. PUMILA, *Willd.*

A dwarf species, with white flowers, introduced in 1800.

W. LONGIFLORA, *Willd.*

This species has also white flowers.

GENUS V.

MELANTHIUM, *Lin.* THE MELANTHIUM.*Lin. Syst.* HEXANDRIA TRIGYNIA.

GENERIC CHARACTER.—Perianth 6-parted, spreading; segments equal, unguiculate; unguis stamiferis, segments furnished with two glands at the base. Capsule subovate, sub-trifid at the apex, 3-celled. Seeds numerous, and furnished with a membranaceous wing.

DESCRIPTION, &c.—A genus of pretty little plants, from which several new genera have been formed. The name of *Melanthium* is derived from two Greek words, signifying a black flower. Most of the species are natives of the Cape of Good Hope.

1.—MELANTHIUM JUNCEUM, *Willd.* THE RUSH-LEAVED MELANTHIUM.

SYNONYMES.—*M. triquetrum*, *Lin.*; *Phalangium*, *Houtt.*

ENGRAVINGS.—*Bot. Mag.* t. 558.

SPECIFIC CHARACTER.—Leaves linear-subulate; upper ones dilated at the base. Spike flexuose; segments of the perianth unguiculate.

DESCRIPTION, &c.—This is a very beautiful little Cape plant, having very much the appearance of a small *Ixia*. The flowers are stained within with some dark crimson spots, which look almost black, and hence the name of the genus, which signifies “black flowers.” This species was brought from the Cape of Good Hope in 1788; and it is generally kept in the greenhouse, as it requires protection during winter.

2.—MELANTHIUM UNIFLORUM, *Willd.* THE ONE-FLOWERED MELANTHIUM.

SYNONYMES.—*M. ciliatum*, *Jacq.*; *Kolbea Breyniana*, *Ram. et Schul.*

ENGRAVINGS.—*Bot. Mag.* t. 767; and our *fig. 7*, in Plate 58.

SPECIFIC CHARACTER.—Leaves broad-subulate, channelled, stem-clasping. Flowers few. Perianth erect. Segments distinct, diverging. Ovary columnar, style very short, stigma obsolete.

DESCRIPTION, &c.—This plant is a very singular one. It is a native of the Cape of Good Hope, whence it was introduced in 1787; and it requires the same treatment as an *Ixia*.

OTHER SPECIES OF MELANTHIUM.

M. VIRIDE, *Bot. Mag.* t. 994; *ORNITHOGLOSSUM VIRIDE*, *Sal.*

This is a little plant with green flowers, a native of the Cape; introduced in 1788.

M. UNDULATUM; *O. UNDULATUM*, *Swt. Brit. Flow. Gard.* t. 131; and our *fig. 5*, in Plate 58.

This species is distinguished by its waved leaves. It is a native of the Cape, and was introduced in 1825. It should be kept in a pot in a greenhouse, and grown in very sandy loam. It flowers in August and September.

M. ENCOMOIDES, *Bot. Mag.* t. 641; *ANDROCYMBIUM ENCOMOIDES*, *Swt. Brit. Flow. Gard.* t. 165.

A very singular plant, of no beauty, resembling a *Massonia*, introduced in 1794, and flowering in March.

M. SECUNDUM, *Willd.*; *M. CAPENSE*, *W.*; and *M. CILIATUM*, *W.*

All Cape species with white flowers, are also mentioned in the Plant Catalogues; as are *M. GRAMINEUM*, *Willd.*, a native of Barbary; and *M. PHALANGOIDES*, *W.*, from Carolina, both with white flowers.

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